INTERVENTION OF TANZANIA PEOPLES' DEFENCE FORCES ON POACHING

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Tanzania is endowed with various fauna, flora, and other natural resources. These resources are not only beneficial to the ecosystem but also make significant contribution to Tanzania's tourism industry. Tourism in Tanzania is a major source of employment and contributor to the gross domestic product. However, most of these important resources are under threat of improper use or extinction. Wildlife is the most affected category due to the effects of poaching. A wide range of literature on poaching in Tanzania guided debates on the subject that partly helped in the formation of anti-poaching measures. Little was achieved even after several measures were implemented. The acquisition by poachers of automatic weapons worsened the situation. Such trends were a threat to national security and called for military intervention, among other wider interventions. This thesis draws lessons from Botswana and South Africa to enhance Tanzania's military intervention on poaching. Using the research question, "What can the Tanzania Peoples Defense Forces do as part of the Tanzanian's government anti-poaching program to protect elephant herds?", this research established the need for TPDF intervention on anti-poaching but as small component of a wider integrated approach to dealing with the vice.

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ABSTRACT

INTERVENTION OF TANZANIA PEOPLES' DEFENCE FORCES ON POACHING, by Major Anderson Mpaki Charles, 103 pages.

Tanzania is endowed with various fauna, flora, and other natural resources. These resources are not only beneficial to the ecosystem but also make significant contribution to Tanzania's tourism industry. Tourism in Tanzania is a major source of employment and contributor to the gross domestic product. However, most of these important resources are under threat of improper use or extinction. Wildlife is the most affected category due to the effects of poaching. A wide range of literature on poaching in Tanzania guided debates on the subject that partly helped in the formation of anti-poaching measures. Little was achieved even after several measures were implemented. The acquisition by poachers of automatic weapons worsened the situation. Such trends were a threat to national security and called for military intervention, among other wider interventions. This thesis draws lessons from Botswana and South Africa to enhance Tanzania's military intervention on poaching. Using the research question, "What can the Tanzania Peoples Defense Forces do as part of the Tanzanian's government anti-poaching program to protect elephant herds?", this research established the need for TPDF intervention on anti-poaching but as small component of a wider integrated approach to dealing with the vice.

ACKNOWLEDGMENTS

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ACRONYMS

GDP	Gross Domestic Product
SGA	Small Group Advisor
NTSC	National and Transnational Serious Crimes Investigation Unit
CITES	Convention on International Trade in Endangered Species
IWT	Illegal Wildlife Trades
TPDF	Tanzania Peoples' Defence Forces
TANAPA	Tanzania National Parks Authorities
PAMS	The Protected Area Management Solutions

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CHAPTER 1

INTRODUCTION

Background of Wildlife in Tanzania

The survival of our wildlife is a matter of grave concern to all of us in Africa. These wild creatures amid the wild places they inhabit are not only important as a source of wonder and inspiration but are an integral part of our natural resources and our future livelihood and wellbeing.
—J. K. Nyerere, "Mwalimu Julius Kambarage Nyerere–Biography"

Tanzania is a nation endowed with a large number of wildlife and other natural

resources. It is second only to Brazil in tourism attraction that significantly contributes to

the country's economic growth and sustainability.[1] Wildlife conservation in Tanzania

dates back to 891 with the enactment by the colonial masters, Germany, of laws to

control hunting and the sale of game. In 1921, after defeating the German rule in

Tanzania, the colonial British established a game department for the protection of

animals and the people and crops around the conserved areas.[2] Since then, different

wildlife laws have been enacted in Tanzania to protect wildlife and empower the

communities around the conserved areas to fight against poaching. The fight mostly

focused on illegal ivory trade.

A rich diversity of wildlife forms the foundation of Tanzania's tourism industry.

Wildlife in the country is of both economic and ecological importance. There are 16

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[1] Jumanne Abdallah Maghembe, "Budget Speech for the Financial Year 2017/018" (Speech, Parliament of Tanzania, Dodoma, May 2017).

[2] Tanzania Ministry of Natural Resources and Tourism, "Wildlife Division," accessed August 05 2017, https.//www.mnrt.go.tz/sectors/category/wildlife.

national parks in Tanzania. They inhabit both small and large wild animals. In most of the parks the "Big Five" wild animals: elephants, lions, leopards, buffaloes, and Rhinoceros are present.

About 90% of the tourists that visit Tanzania are attracted by wildlife and tourism is a major contributor to the country's GDP.[3] In the financial year 2016/2017, tourism contributed to 17.5% of Tanzania's GDP and 25% of the foreign currency earnings.[4] Additionally, about a half a million people in Tanzania are employed in the wildlife sector. Despite the importance of wildlife sector, it is compounded with a number of challenges that are a threat to its sustainability. These challenges are due to the increasing international demands for wildlife products. For example, the rising demands for ivory for ornaments and its medicinal values in the Asian countries, such as China, Malaysia, Philippines, Vietnam, and Thailand, has resulted in increased poaching of elephants in Tanzania. Other animals affected by poaching activities in Tanzania are rhinoceros, leopards, and lions due to the values attached to their body parts in the international market. Poachers are often connected with rich and powerful criminal networks that give them confidence and assurance to pursue the vice.[5]

The traditional respect attached to wildlife of never killing or eating some of them, such as the big animal in Tanzania – "the land of the elephants," has been

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[3] TanzaniaInvest, "Tanzania Tourist Arrivals Increase by 12.9% in 2016 to Reach 1.28 M," accessed October 12, 2017, https://www.tanzaniainvest.com/tourism/tourist-arrivals-reach-2016.

[4] Ibid.

[5] Ibid.

domineered by personal interest. The quest for quick wealth-creation has superseded the

need to conserve the animals.[6] For centuries, the elephant was the dominant big animal in

Africa and enjoyed safety and freedom of movement. In previous years, the elephant

would have been harder to kill because most people had no access to more lethal

weapons. So, the elephant remained unmolested. Even when the meat would be

substantially vital to the community, people did not prefer to kill big animals like

elephants and rhinoceros, save for unique situations when the animals destroyed their

crops.

However, the advent of sophisticated weapons has facilitated the sharp increase of

elephant poaching in Tanzania.[7] Poachers are armed with the latest technologies of war

material. In various cases poachers have used AK-47s and some are suspected to be

former soldiers. In 2016, a British pilot, Roger Gower, was in a helicopter supporting

anti-poaching missions in Tanzania and was killed by poachers using AK-47.[8] Such

challenges call for military interventions by the Tanzania Peoples Defence Forces'

(TPDF) among other strategies. While closing a training session of game wardens, the

Tanzanian Ministry of Natural Resources' Permanent Secretary (PS), Major General

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[6] Jafari R. Kideghesho, "The Elephant Poaching Crisis in Tanzania: A Need to Reverse the Trend and the Way Forward," *Tropical Conservation Science* 9, no. 1 (2016): 369-388.

[7] *All Africa*, "Tanzania: Paramilitary Force to Check Poaching in Game Parks," May 05, 2018, accessed November 13, 2017, http://allafrica.com/stories/201605060987.html.

[8] *BBC*, "Tanzania Elephant Poachers Kill British Helicopter Pilot," January 31, 2016, accessed November 13, 2017, http://www.bbc.com/news/uk-35450490.

Gaudence Milanzi, recommended for an amendment of Tanzania's firearms laws to enable game rangers acquire superior weapons to overmatch poachers.[9]

In Tanzania, apart from the laws and government assistance to villages, anti-poaching efforts have resulted in specially trained game wardens and other groups that now work with the local communities near wildlife habitats to safeguard the animals.[10] The game wardens are synonyms with rangers.[11] Other efforts have been attempts to partner with western and regional intelligence services to identify and destroy the poaching organizations and networks. But the approaches used have flouts. For instance, the disparities in the allocation of material benefits, in form of conservation funds, to the nearby communities has led to variations in the value the communities attach to the conservation of wildlife. The villages that do not receive assistance find no value in conserving wildlife. The community response is affected by the level of benefits and involvement by the people. (See Figure 1).

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[9] *All Africa,* "Tanzania Paramilitary Force to Check Poaching in Game Parks."

[10] Tom A. Peter, "An Anti-Poaching Project Misfires in Tanzania," *Al Jazeera,* September 2, 2015, accessed September 20, 2017, http://america.aljazeera.com/articles/2015/9/2/anti-poaching-project-misfires-in-tanzania.html.

[11] Tanzania Ministry of Natural Resources and Tourism, "Wildlife Conservation Act, July 2013, Section 5," accessed September 20, 2018, http://www.endangeredearth.com/wp-content/uploads/es_laws/Tanzania-Un.-Rep.-of-Wildlife-Act-2013.pdf.
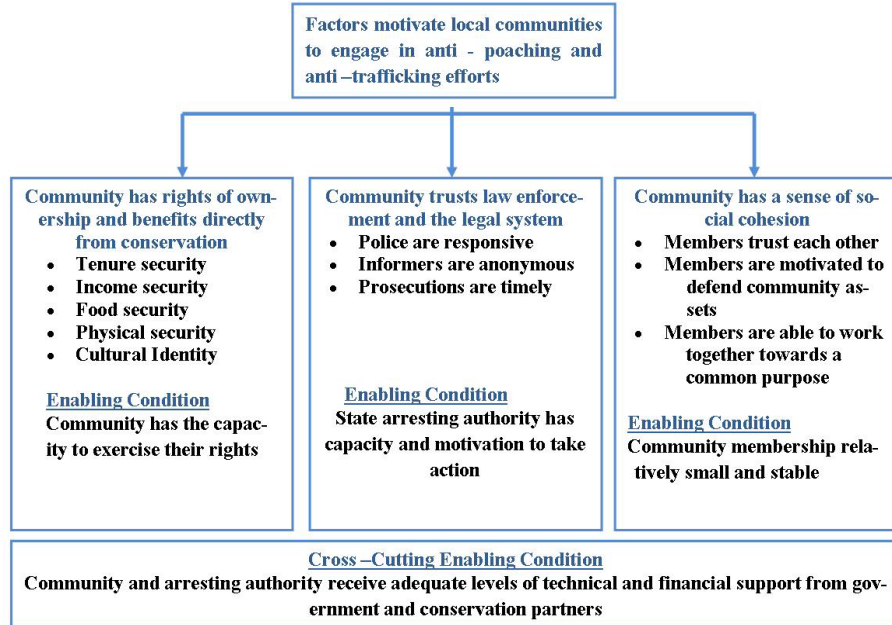
Figure 1.   A Summary of Factors that Motivate Local Communities
to Engage in Anti-Poaching Activities

Source: David Wilkie, Michael Painter, and Anila Jacob, *Rewards and Risks Associated with Community Engagement in Anti-Poaching and Anti-Trafficking* (Washington, DC: U.S. Agency for International Development, 2016), 6, accessed 15 October 2017, http://pdf.usaid.gov/pdf_docs/PA00M3R4.pdf.

All in all, poaching remains a real challenge in Tanzania. The rate of poaching is influenced by the value that the community and their international networks attach to animal parts, means of poaching, and the effectiveness of the anti-poaching measures. Some jewelry, piano keys, religious ornaments, among other items are a few of the products from animal parts. Some people use ivory for decorative purposes while others consider ivory ornaments as symbols of prestige in the society. In East Asia, some people use elephant tusks to make statues for worship.

Transnational Relationships

Tanzania borders countries with different political, economic and social characteristics. For example, the Democratic Republic of Congo (DRC) and Burundi have experienced political instability for long time. Civil wars caused some people to flee and immigrate to Tanzania, this also included some illegal immigration who came with their traditional activities, such as poaching. Economic difficulties in the refugee camps forced some refugees and other illegal immigrants enmeshed in the camps to poaching. Many of them used weapons they brought with them from their countries of origin. In 2012, a Burundi refugee, Meshack Misongwe, was detained in Tanzania after being found in possession of three elephant tusks worth US$ 20,000. Burundi is a prominent hideout for elephant poachers and ivory smugglers from Tanzania, Kenya, DRC, Zimbabwe, and Zambia. Once smuggled to the ivory markets in Burundi and Uganda, it is attractively sold to international businessmen who place it on the world market.[12]

Tanzania is among the 31 largest countries in the world with a total area of 947,300 square kilometers, and of that, 115,000 square kilometers is allotted for wildlife of which 42,000 square kilometers are national game parks. The size of the controlled area in Tanzania amounts to more than a quarter of the country's full size.[13] Most of the national parks and game reserves are close to the borders of east and southern Africa. The

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[12] Apolinary Tairo, "Poaching Threatens Africa Elephants and Tourism," *eTN Tanzania*, October 05, 2012, accessed September 21, 2017, https://eturbonews.com/31557/poaching -threatens-africa-elephants-and-tourism.

[13] Cim, "Tanzania Background Information," accessed September 23, 2017, http://www.cim.org/en/CIMSubSites/CentreForExcellence/Country-profiles/Tanzania/Tanzania-background-info.

countries that border Tanzania's conservation areas are Kenya, Uganda, Rwanda, Burundi, the Democratic Republic of Congo (DRC), Zambia, Malawi, and Mozambique.[14] The many porous borders makes it easy to smuggle wildlife resources out of the country.

Poaching in Tanzania is also associated with other factors such as corruption within the government and poor border security. Other factors are small staffing of wildlife sector management and limited resources to implement wildlife management activities. Therefore, this study will analyze various reasons for poaching and the initiatives in place, and will propose the best and most effective solution for fighting poaching in Tanzania. This research mostly focused on the poaching of elephants to represent the wider picture of poaching in Tanzania.

<u>Problem Statement</u>

The 2013 elephant census showed there were 20,000 elephants in Tanzania national parks but by 2014, only 8500 remained. The elephant census was conducted again in 2016 and it was discovered that 4,200 elephants remained.[15] This 75 percent sharp decrease of elephants in three years was due to increased poaching, which called for a quick response to arrest the situation. Left to continue, poaching would lead to an

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[14] World Atlas, "Where is Tanzania?" accessed August 21, 2017, http://www.worldatlas.com/af/tz/where-is-tanzania.html.

[15] World Data Atlas, "United Republic of Tanzania - Contribution of travel and tourism to GDP as a Share of GDP," accessed November 5, 2017, https://knoema.com/atlas/United-Republic-of-Tanzania/topics/Tourism/Travel-and-Tourism-Total-Contribu tion-to-GDP/Contribution-of-travel-and-tourism-to-GDP-percent-of-GDP.

extinction of elephants in Tanzania in four years.[16] The extinction of elephants that are a major tourist attraction and for which Tanzania is known as the "the land of the elephants" will affect economic growth. Extinction of elephants will not only affect the tourism industries which contribute 13.3 percent of the GDP but also deprive the future generations of this national treasure. For a long time, the government, private institutions, and the international community have played enormous roles in fighting elephant poaching. The community has been educated about the problem, and laws and policies have been enacted. The Game Warden unit is the custodian of elephants, and it also provides training and leadership for wildlife protection efforts. Tanzania has joined with the international community to ban the worldwide tusk market. Part of the anti-poaching strategies have been the involvement of the Tanzania Peoples Defence Forces (TPDF) to reinforce the game rangers. Despite all these measures to end poaching, the problem continues at a high pace. There is a need to research on strategies that the TPDF can employ as part of the wider efforts to help curb poaching in Tanzania.

<div align="center">Primary Research Question</div>

The primary research question is, "What can the TPDF do as part of the Tanzanian's government anti-poaching program to protect elephant herds?"

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[16] David McKenzie and Ingrid Formanek, "Our Living Dinosaurs: There are Far Fewer African Elephants than We Thought, Study Shows," *CNN*, August 31, 2016, accessed November 20, 2017, https://www.cnn.com/2016/08/31/africa/great-elephant-census/index.html.

The Secondary Research Questions

1. What elephant protection capabilities currently exist within the Tanzanian government?

2. What are other African nations doing, in the field of military assets, to protect their wildlife?

Purpose

The purpose of this study is to investigate what the TPDF can do, as part of the Tanzania government, to support the anti-poaching program. This study will look at core issues such as international drives behind wildlife poaching in Tanzania, the Tanzania Government's strategy on anti-poaching efforts, what other African nations are doing to protect their wildlife, current capabilities of the law enforcement agencies to combat poaching activities in Tanzania, available military assets, and then finally, give recommendations. The primary purpose of carrying out this study on elephant poaching is to investigate what the TPDF can do as part of the Tanzania government's anti-poaching program and to find additional methods of stopping poaching in Tanzania.

Scope

The scope of the study is to analyze the duties and the responsibilities of different institutions and ultimately, analyze their capability to protect elephants. This survey covers Tanzania as a case study and investigates poaching of elephants in all national parks and game reserves in Tanzania. Some of the included national parks and game reserves are the Serengeti National Park, the Maswa Game Reserve, Ruaha National Park, Katavi National Park, and the Selous Game Reserve. The study also revisits

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secondary data to see how other countries use their military to protect their domestic

resources. This research focuses on the effort and means used to curb the poaching

problem in other countries and to assess if other countries have a more successful plan to

reduce poaching as compared to Tanzania.

<div align="center">Assumption</div>

1. The communities surrounding national parks must protect elephants, so they must be taught how to defend them.

2. Game rangers are paid salaries to protect wildlife and that should include all endangered animals.

3. The international community should refuse to buy elephant tusks because by doing so, they are complicit with the illegal killings.

4. The military has to be involved as part of their responsibility to the nation, since poaching is a real threat to Tanzania's national security.

<div align="center">Definitions of Terms</div>

Poaching. "Any act that intentionally contravenes the laws and regulations

established to protect wildlife and renewable resource."[17] Elephant poaching is an illegal

hunting or killing of elephants.

Anti-Poaching. Refer to opposing, prohibiting, or action to prevent poaching.[18]

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[17] Andrew M. Lemieux, ed., *Situational Prevention of Poaching* (New York: Routledge, March 5, 2014), 2.

[18] *Merriam Webster Dictionary*, "Anti-Poaching," accessed August 14, 2017, https://www.merriam-webster.com/dictionary/anti-poaching.

Endangered Species. A species threatened with extinction. Illegal wildlife trade: is estimated to be a multibillion-dollar business involving the unlawful harvest of and trade in live animals and plants or parts and products derived from them. Wildlife is traded as skins, leather goods or souvenirs.[19]

Culling. Is the process of removing undesired elephants herd basing on specific criteria like age and breeds.[20]

National Parks. Is a area of land larger enough to keep animals, plants and any nature attraction protected by government designated for animals.[21]

Wildlife Rangers. Are people employed by wildlife conservation authority in uniforms and disciplined. There are paramilitary force carrying small arms and ammunition under the jurisdiction of wildlife act 2013.[22]

Tanzania Peoples Defence Forces. The national military organization of the United Republic of Tanzania that comprises of the Land Forces, Air Forces, Navy, and National Services.

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[19] US Fish and Wild Life Services, "Illegal Wildlife Trade," accessed December 20, 2017, https://www.fws.gov/international/travel-and-trade/illegal-wildlife-trade.html.

[20] *Oxford Dictionaries*, "Culling" accessed December 20, 2017, https://en.oxforddictionaries.com/definition/culling.

[21] Ibid.

[22] Tanzania Ministry of Natural Resources and Tourism, "Wildlife Conservation Act".

Limitations

There are several limitations to this research. The time allocated to this study is limited due to the complexity of the subject and the end of the Command and General Staff Officer College course. The study is limited to elephant poaching in Tanzania. Research does not cover the poaching of other endangered animals like rhinoceroses, lions, and leopards. This research will not include human studies nor include interviews, questionnaires or group discussions to acquire facts, findings or analysis. Some of the secondary data are doubtful concerning reliability and authenticity. The information may be distorted or overemphasized depending on the attitude and interests of the author/editor this will limit reliability of facts.

Delimitations

This study is limited in the fact that it relies on secondary data sources. Data gathering focuses on articles, reports, newspapers, journals, books reports and other open source materials. However, the use of up to date and various sources of information will help the researcher obtain the most current situation in the field and will eliminate the limitations of unreliable data.

Significance of the Study

This research is relevant to the security organs in Tanzania and military scholars. Natural resources are historical sources of conflicts as well as mitigating factor to conflict. Resources are also important pillars to national peace and security because they are sources of finance to the security organs in the country. Elephants are an important resource that brands Tanzania as "the land of elephants." As part of wildlife, elephants

are a contributory factor to the 13.3 percent GDP that Tanzania realizes annually, part of which sustains the defense expenditures. Besides, the TPDF involvement is part of the government anti-poaching measures. Therefore, this research will help to enhance the TPDF intervention. Moreover, there has been little specific literature written on the TPDF's anti-poaching efforts. This research bridges that literature gap. Again, the East African Community (EAC): Burundi, Kenya, Rwanda, South Sudan, Tanzania, and Uganda is in the process of integration. Some of these countries have not yet explored the use of the military in wildlife conservation whereas others like Uganda has done so. This research will act as a reference to the other EAC partner states on the role of the military in wildlife conservation to enable smooth integration since elephant poaching is prevalent in all the six partner states and the geographic, economic, and social settings in the countries are alike.

Summary

This chapter visits the background of the problem and how poaching became a major factor leading to the reduction in elephant herds in Tanzania. The chapter highlights the causes of poaching, the roots causes of poaching, and the implication of poaching in Tanzania. A major cause of poaching is extreme poverty within the communities that surround the National parks and game reserves. Furthermore, the urge for quick wealth has motivated elephant poaching in Tanzania. Moreover, the rich are also involved in illicit ivory undertakings to get richer and use ivory for ornamental and medicinal purposes. There are also issue of killing animal for protection of crops from destruction caused by elephants. The external factors, such as the international demand

for ivory, emergence of sophisticated weapons, and spillover effects from neighboring countries, have aggravated the situation.

This chapter further presents the statement of the problem and provides assumptions for efforts to curb poaching and Tanzania. The assumptions are embedded to answer the research questions. Despite some delimitations and limitations, the research process applied guaranteed an objective and meaningful outcome that are applicable in the interest of the wider EAC and provides a rich lessons learned for scholars. The next chapter will investigate different measures taken by Tanzania and international community to curb poaching and how military can mitigate poaching in different countries.

CHAPTER 2

LITERATURE REVIEW

Introduction

The purpose of this study is to investigate what the TPDF can do, as part of the Tanzania government, to support the anti-poaching program. The research question used for the study is, "What can the Tanzania Peoples Defense Forces do as part of the Tanzanian's government anti-poaching program to protect elephant herds?" This chapter presents past literature studies and describes a number of resources used to gather information for the study. In the literature review, the researcher surveys what has been published in books, government sites and other websites. Others are magazines, newspapers, journals, policy papers, and dissertations by scholars that relate to elephant poaching and poaching in general.

The major areas that this literature review focuses on are the anti-poaching theoretical framework that the researcher used, anti-poaching philosophical approaches, and the poaching phenomenon in Africa in general and Tanzania in particular, including a look on the wildlife control policies in place. The review goes in depth to cover the anti-poaching programs in Tanzania and the intervention of TPDF in anti-poaching efforts. It also covers the draw backs of ant-poaching efforts in Tanzania. However, the discussions in these broad areas focus mainly on the ingredients that support the answers to the research questions and form a basis for the selection of the research variables in Chapter 3. The areas or variables are the international laws and policies on wildlife products, role of game gangers and game wardens, involvement of the local communities, and the military involvement in wildlife conservation.

Therefore, the review looks at the elephant protection capabilities that exist within Tanzania and the possible linkages to the international community, especially within African. Here, the literature review examines the anti-poaching measures taken by African countries to protect their wildlife as well as global measures on anti-poaching. Locally the review looks at the current policies and laws in Tanzania, their benefits and impacts, as well as how they are used to protect elephants. The review also anchored on how game rangers perform their duties to protect elephants. This section also explains the community involvement and responses to anti-poaching measures. Part of the national anti-poaching measures is the use of the military. The review looks at the military capabilities on anti-poaching program.

<u>Theoretical Framework of Anti-Poaching</u>

The theoretical framework for anti-poaching based on the increase of poaching activities in Tanzania. The framework is on how the military can be involved in the defense of elephants against poaching. The literature surveys the anti-poaching phenomenon in different wildlife sectors. Killings of anti-poaching personnel in Tanzania depicts the need for a review of the anti-poaching efforts to be able to facilitate the defeat of armed poachers. The review of anti-poaching strategies in the wildlife management initiatives in Tanzania and the initiatives in other countries can suggest the best methods to adopt in the wildlife system and administration that will appropriately accommodate the militarization of anti-poaching efforts within Tanzania's existing framework.

<u>Anti-Poaching Philosophical Approaches</u>

The poaching of elephants and other wildlife has been a long standing challenge because of the complexity of the problem. Works by prominent scholars resulted in theories that attempt to provide solutions to the poaching problem.[23] Scholars and authors: Duan Biggs, Rosie Cooney, Dilys Roe, Holly T. Dublin, James R. Allan, Dan W.S Challender. and Diane Skinner developed a *Theory of Change* (ToC) to guide policymakers, donors, and practitioners to combat illegal wildlife trade (IWT).[24] According to them, community involvement is essential in combating IWT because of close contact to the wildlife.

The people living in the proximity of the national parks know the wildlife patterns of life. This enables them to participate in or in support of anti-poaching activities. ToC describes some enabling actions to strengthen the local-to-national-to-regional-to-international governance actions that include the support of the institutional frameworks that enforce IWT; increases the perceived fairness of wildlife laws; strengthens community management laws and the benefits from wildlife; and encourages the fight against corruption in the system. Also, underlying all the actions in the ToC is the need for enhancing community capacity.[25]

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[23] Duan Biggs, Rosie Cooney, Dilys Roe, Holly T. Dublin, James R. Allan, Dan W.S. Challender, Diane Skinner, "Developing a Theory of Change for a Community-Based Response to Illegal Wildlife Trade," Wiley Online Library, accessed August 18, 2017, http://onlinelibrary.wiley.com/doi/10.1111/cobi.12796/pdf.

[24] Ibid.

[25] Ibid.

Combating poaching is a difficult problem and one of the reasons is because poachers are often using multiple means, including advanced technologies, in their missions. According to a Small Arms Survey conducted in 2015, poachers often use multiple means to kill elephants and rhinos, including firearms and non-firearm methods; however, there is an increasing use of more military-style weapons.[26] Moreover, the game rangers are not well prepared or equipped. A World Wildlife Fund study involving 570 rangers in 12 African countries established that 59 percent did not have the necessary supplies like boots, tents, and GPS devices; and that 42 percent had not received adequate training.[27]

The market price for ivory is very good, especially among the Asian countries of China, Malaysia, Philippines, Vietnam, and Thailand where the demand continues to increase. For example, the ivory market price in China in 2010 was USD 750 per kilogram, and in 2014, it had increased to USD 1,000 per kilogram.[28] This attracts many more people into the network of ivory and consequently increased elephant poaching.[29]

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[26] Graduate Institute of International Studies, *Small Arms Survey 2015: Weapons and the World* (Cambridge: Cambridge University Press, 2015), E-Book, accessed December 15, 2017, http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2015/eng/Small-Arms-Survey-2015-Highlights-EN.pdf.

[27] Rachel Nuwer, "A Forgotten Step in Saving African Wildlife: Protecting the Rangers," *The New York Times,* November 28, 2016, accessed August 14, 2017, https://www.nytimes.com/2016/11/28/science/a-forgotten-step-in-saving-african-wildlife-protecting-the-rangers.html.

[28] Environmental Investigation Agency, "Vanishing Point – Criminality, Corruption and the Devastation of Tanzania's Elephants," November 6, 2014, accessed January 2018, https://eia-international.org/report/vanishing-point-criminality-corruption-and-the-devastation-of-tanzanias-elephants.

[29] M&G Africa Reporter and *Xinhua*, "Tanzania Wants Tougher Mail and Guardians Africa Penalties Against Poachers, A Year After Its Shoot-On-Sight Policy

For a long time, various efforts have been implemented in combating elephant poaching and illegal wildlife crimes that have included domestic, regional, and international measures. Despite those measures, poaching continues because of lack of political will to protect elephants and other wild animals, corruption, ineffective legal systems, lenient penalties, and weak enforcement of national and international regulations. This has led to a rapid decline in the number of elephants in Africa and possible extinction in the near future. (See Figure 2).

A BLEAK FUTURE FOR AFRICA'S ELEPHANTS

- 10 Million elephants — Early 20 centuary
- 800000 Elephants — 1979
- 0.6 — 1989
- 0.45 — 2007
- 352000 Elephant — 2016
- 160000 Elephants In a bleak future — 2025

(Y-axis: Elephants; X-axis: Year)
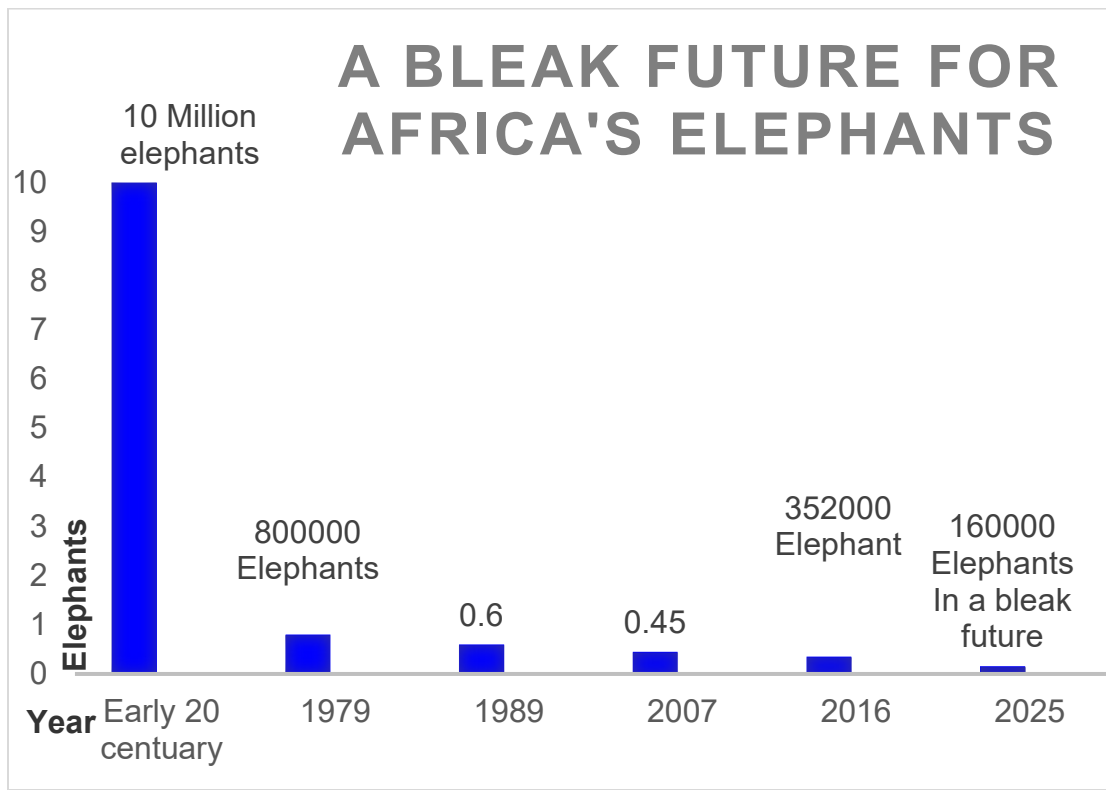
Ran into Trouble," 09 November 2014, accessed January 16, 2018,
http://mgafrica.com/article/2014-11-09-tanzania-seeks-tougher-penalties-against-poachers-a-year-after-its-shoot-on-sight-policy-run-into-trouble.

Figure 2.   A Graph Showing the Declining Numbers of Elephants in Africa

Source: David McKenzie and Ingrid Formanek, "Our Living Dinosaurs: There are Far Fewer African Elephants than We Thought, Study Shows," *CNN*, August 31, 2016, accessed November 20, 2017, https://www.cnn.com/2016/08/31/africa/great-elephant-census/index.html.

According to available literature, illegal wildlife trade is an organized crime that comes after drug trade, human trafficking, and arms trade.[30] Wildlife crime involves cross-border international illicit organizations. For instance, the findings of an investigative journalist, Bryan Christy, who researched on the smuggling routes revealed that ivory from the DRC's Garamba National Park is trafficked to Sudan at Darfur, which is a major transit route to China. He confirmed this by placing GPS trackers on multiple fake ivory tusks that all went through the same route.[31]

In Sudan, there are reports that government-allied militias fund the operations of elephant poachers outside their own borders. The situation is different in other countries, such as Mozambique where there is organized crime that funds poachers to enter South Africa to fight well trained and equipped anti-poaching government forces in pursuit of ivory. In Tanzania, some government officials are reported to be involved in elephant

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[30] LSE Expert Group, "After the Drug Wars: Report of the LSE Expert Group on the Economics of Drug Politics," accessed 16 January 2018, http://www.hr-dp.org/files/2016/11/18/LSE_IDEAS_-After_the_Drug_Wars.pdf.

[31] Andrei Mihai, "Journalist Uses GPS Trackers and Fake Elephant Tusks to Reveal Smuggling Route," accessed October 2, 2017, http://www.zmescience.com/ecology/animals-ecology/elephant-tracking-tusk-ivory-17082015/.

poaching.[32] Trans-border armed groups, criminals, and militias in the DRC such as the Lord's Resistance Army deal in ivory to support their operations. Figure 3 depicts how crime and conflict influence poaching.
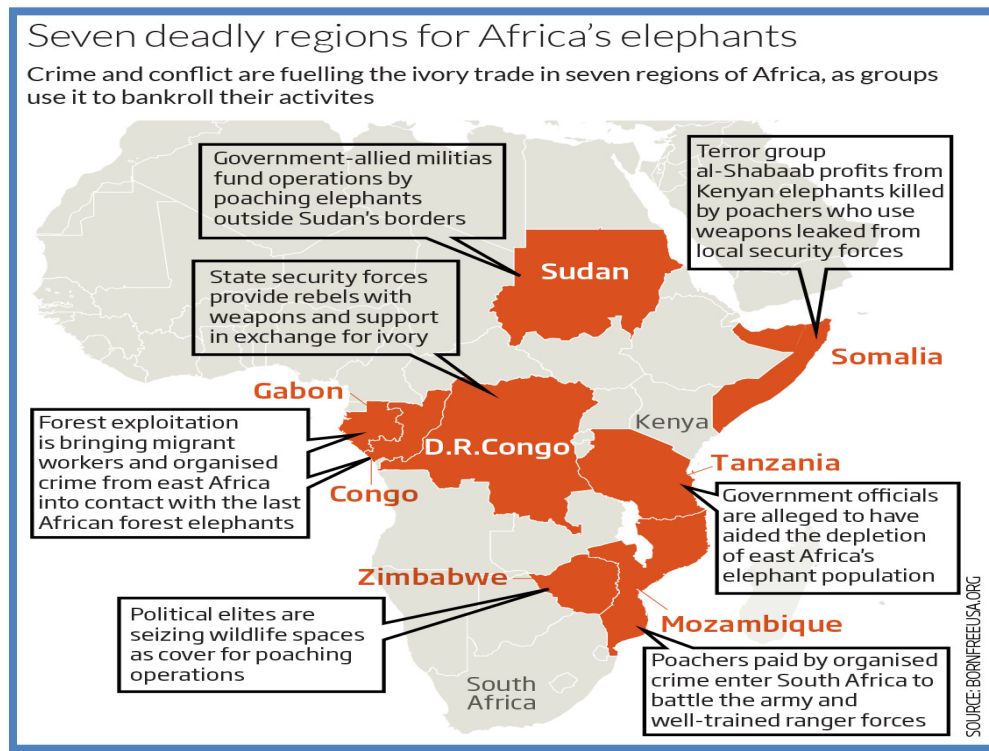
Figure 3.   Map Showing Factors Influencing Poaching
in Seven Areas of Africa

Source: Animal Club, "Elephant Poaching Map," accessed 24 December 2017,
http://animalia-life.club/other/elephant-poaching-map.html.

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[32] Animal Club, "Elephant Poaching Map," accessed 24 December 2017,
http://animalia-life.club/other/elephant-poaching-map.html.

<u>International Laws and Policies on Wildlife Products</u>

The international laws and policies on wildlife is discussed in the global, continental, and national contexts. This is under the international wildlife conservation policies, Africa wildlife control policies, and international wildlife management initiatives in Tanzania, respectively.

The Global Context

The United Nations passed an agreement with Tanzania to enforce the Combat Poaching and Illegal Wildlife Trade Act (2010 -2015). The government of Tanzania strengthens law enforcement through local community conservation participation. Local government must pursue sustainable livelihood opportunities to eradicate poverty and raise the awareness of the importance of animals. This agreement also calls for the international community to condemn transporting and the receipt of illegal animal trophies. Finally, the world must understand depletion of wildlife is a serious crime, and call all international communities to support preservation.[33]

Many countries have taken military initiatives to combat poaching to protect wildlife in their respective countries. This section investigates these nations to find how they use their military to enforce laws. Nepal is more successful in protecting their rhinos than any other country in Asia. In 2010, the Nepalese government formed three wildlife crime control committees to work at national and district levels to eliminate poaching and illegal wildlife trade. To ensure efficiency, the committees were required to coordinate with the National Parks and Wildlife Conservation Department, Forest Department,

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[33] Animal Club, "Elephant Poaching Map."

customs, the army, the police, the National Investigation Department and the Crime Investigation Bureau. The measures adopted include law enforcement officer training and strict enforcement of wildlife crime laws, and places anti-poaching units in the parks.

Local communities become involved in providing for tourist services and they receive 50 percent of the gross income from the three protected areas which are the Chitwan National Park, the Bardia National Park, and the Suklaphanta Wildlife Reserve.[34] Despite the high prices brought by rhino horn in China and Vietnam, which are close to Nepal, Nepal is successfully fighting poaching. Due to its protection strategies, there were 10 rhinos poached from 2008 to 2010, the number dropped to 1 a year in 2011 and 2012. The involvement of Nepal army helped the anti-poaching activities by collecting wildlife poacher information in the park and even gathering information about the traders outside the park. Other strategies used by the military include setting up mobile camps and, to ensure effectiveness, it cooperated with government officials and park staff.[35] India has used cash bonuses, and the guaranteed legal right to kill each suspected poacher in self-defense or proactively, to motivate rangers at the Kaziranga National Park.

The Continental Context

Africa took an initiative to conserve endangered species through the ratification of the convention on the Conservation of Nature and Natural Resources (1968, revised

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[34] Martin Esmond, Chryssee Martin, and Lucy Vigne, "Successful Reduction in Rhino Poaching in Nepa, Pachyderm, July – December 2013," accessed September 27, 2017, http://www.rhinoresour cecenter.com/pdf_files/140/1400555558.pdf.

[35] Ibid.

2003). This convention is also known as the Algiers Convention and was adopted by the

Assembly of the Organization of African Union (now African Union) in 1968. This

encourages individual and joint action among the African countries on problems of

conservation, utilization, and the development of soil, water, flora, and fauna for the

present and future welfare of humankind. The agreement was adopted by the African

Convention in 2003 in Maputo and encourages corporations to eliminate illegal trade in

endangered species through protocols such as the Lusaka Agreement.[36]The Lusaka

Agreement on Co-operative Enforcement Operations that was directed towards illegal

trade in wild fauna and flora was adopted in September 1994 in Lusaka, Zambia and

came into force in December 1996. It aimed to foster cooperation among member states

to reduce and ultimately eliminate wildlife crime in Africa. The United Republic of

Tanzania was among the signing nations.[37]

The South African community (SADC) rectified the SADC Law Enforcement and

Anti- Poaching Strategy (LEAP) in 2017. This rectification aimed at implementing

Arusha Regional Conservation and Combating Wildlife/Environmental Crime declaration

of 2014 and SADC Protocol of 2003. The Arusha Declaration on Regional Conservation

and Combating Wildlife/Environmental Crime (November 2014) was signed by the

African countries of East African Community (EAC) and Southern African Development

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[36] CITES, "CITES Secretariat Welcomes Adoption of United Nations Sustainable Development Goals with specific Targets to End Poaching and Trafficking of Wildlife," accessed September 3, 2017 https://cites.org/eng/CITES_welcomes_UN_SDGs_with_target_to_end_poaching_trafficking_wildlife_25092015.

[37] Ibid.

Community (SADC) with the purpose of strengthening trans-border collaboration on combating wildlife and environmental crimes. The signing countries include Tanzania, Kenya, Burundi, Mozambique, Malawi, South Sudan, Zambia, and Uganda. All of the countries agreed to collaborate in combating illegal off-take and the unsustainable utilization of wildlife. The meeting addressed measures to combat illicit trafficking of animals amongst the member nations. Members shared information to develop and improve databases and protocols for intelligence sharing and joint investigations on poaching.[38]

In Africa, the countries of South Africa, Zimbabwe, Kenya, Botswana, and Cameroon are using military capabilities and trained rangers to fight against poaching. These countries are focusing on military training, establishing special anti-poaching task forces, and intelligence capabilities such using helicopters, satellite imagery, and drones.[39] Kenya's and Zimbabwe's government shoot-to-kill policies, implemented in the 1980s against poachers, resulted in increased elephant population those countries.[40] Using this strategy, between1984 and 1993, over 170 poachers were killed by park rangers in Zimbabwe.[41]

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[38] CITES, "CITES Secretariat Welcomes Adoption of United Nations Sustainable Development Goals with specific Targets to End Poaching and Trafficking of Wildlife."

[39] Graduate Institute of International Studies, "In the Line of Fire: Elephant and Rhino Poaching in Africa," in *Small Arms Survey 2015: Weapons and the World* (Cambridge: Cambridge University Press: 2015), 20-35.

[40] Ibid.

[41] Priviledge Cheteni, "An Analysis of Anti-Poaching Techniques in Africa: A Case of Rhino Poaching," *Journal Environmental Economics* 5, no. 3 (1 September 2014): 63-70.

In 1989, Zimbabwe passed the Wildlife Protection Act to protect game wardens that feared murder by poachers. The act allowed the officials to kill for their own protection, in good faith. The Act increased the morale of anti-poaching units and led to the killing of more poachers than rhinos in 1990. Although this seems to violate human rights since poachers are killed without due process of the law, the policy helped to reduce poaching in a shorter period than any other method.[42]

Likewise, the shoot-to-kill anti-poaching policy in Swaziland was effective in their game parks. The policy was integrated into the country's Game Act and has resulted in a dramatic decrease in rhino killings compared to its neighboring country of South Africa where rangers have not been granted automatic indemnity for murder of poachers. Like in Zimbabwe, Swaziland's shoot-to-kill policy aimed to protect rangers against possible violence from poachers.[43]

The National Context

In an effort to save elephants from extinction, the international communities unanimously agree with the initiative to combat elephant poaching in the world. Tanzania in its effort to address the problem of elephant poaching, ratified the regional wildlife initiatives from the Convention on Biological Diversity (CBD, Rio de Janeiro, 1992) in 1996. The convention defines the Protection of the World Cultural and Natural Heritage

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[42] Cheteni, "An Analysis of Anti-Poaching Techniques in Africa: A Case of Rhino Poaching," 63-70.

[43] Huynh Linhphung, "Shoot-to-Kill Policy: Injustice in the Name of Conservation," University of Texas at Austin, January 19, 2015, accessed September 27, 2017, https://sites.utexas.edu/wildlife/2015/01/19/shoot-to-kill-policy-injustice-in-the-name-of-conservation/.

(WHC, Paris, 1972).[44] Tanzania ratified the International Trade in Endangered Species of Wild Fauna and Flora (CITES), a convention signed by 102 nations in 1973. CITES regulates trade in endangered species and, apart from CITES, Tanzania is a member of the conservation of Migratory Species of Wild Animals (CMS). Tanzania also forms part of the wildlife management of the Convention of Biological Diversity (CBD), the World Heritage Convention, and the Convention against Corruption and the Convention against Transnational Crime, all pertinent to the IWT.[45] The Sustainable Development Goals (SDGs) adopted in 2015 include specific targets to combat poaching and trafficking of protected species, including helping local communities to pursue sustainable livelihoods.[46] All these undertakings of Tanzania show commitment of the country in protecting the wildlife.

<div align="center">Tanzania's Anti-Poaching Programs and Policies</div>

The Tanzanian government has undertaken general programs and policies that is at national level and interacts with the population around the conservation areas and beyond. This constitutes one of the variables of analysis in this research. The government has also undertaken special measures that are not applied in most countries. The use of trained armed rangers and the military in the anti-poaching is a special measure the

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[44] Institute of Development Studies, "National and Regional Legal Frameworks to Control the Illegal Wildlife Trade in Sub Saharan Africa," accessed September 23, 2017, https://reliefweb.int/sites/reliefweb.int/files/resources/147-Enforcement-and-Regulation-IWT.pdf.

[45] Ibid.

[46] CITES, "CITES Secretariat Welcomes Adoption of United Nations Sustainable Development Goals with specific Targets to End Poaching and Trafficking of Wildlife."

government introduced, which constitutes a variable of analysis in Chapter 4 of this thesis.

General Measures

The government of Tanzania has undertaken similar measures as many other countries do. The ToC mainly applies under these measures because they mainly interact with the population, both near and far from the conservation areas. These measures were put in place due to the threats the wildlife in Tanzania faced. For example, the elephant population census conducted in 2013 by Environmental Investigation Agency revealed a high rate of depletion of elephant herds as discussed in Chapter 1 of this thesis. The abnormal trend affected Tanzania's international reputation and threatened extinction of elephants in the country. However, Tanzania not being an exception, wild game is considered a "public good" almost everywhere and, therefore, subject to the "tragedy of the commons": everyone tries to consume the free resource, because otherwise others will do it. The result of this is overuse, lack of sustainability, and finally, extinction.[47] The solutions to poaching are as complicated as its causes.

The Tanzanian government adopted different initiatives to save the animals. The protection of animals is mainly done by wildlife management sector under the ministry of tourism and natural resources. First, the central government, through the line ministry, administers wildlife laws and formulates strategies and programs for wildlife protection. It also issues and administers all types of wildlife resource user rights and trading

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[47] CITES, "CITES Secretariat Welcomes Adoption of United Nations Sustainable Development Goals with specific Targets to End Poaching and Trafficking of Wildlife."

licenses, manages plans for wildlife protected areas, and coordinates and monitors policy implementation.[48] The Ministry of Natural Resources and Tourism works in collaboration with other stakeholders such as Tanzania Wildlife Research Institute (TAWIRI), Tanzania Wildlife Protection Fund (TWPF), the police, and airport authorities to enforce the laws on wildlife protection.

TAWIRI administers wildlife research in the country and advises the government and other authorities on sustainable management of wildlife. The College of African Wildlife Management trains wildlife and protected area managers.[49] Agencies responsible for the management of Wildlife and Wetlands in Tanzania also manage game reserves, game controlled areas, and all wildlife outside protected areas.[50] TWPF supports conservation efforts, education and training on conservation, building community awareness on wildlife matters, capacity building in wildlife management, and wildlife management research.

Second, Local Government Authorities (LGAs) formulate and enforce bylaws, provide technical support and conservation education to villagers, and prepare plans that protect wildlife. They are responsible for the implementation of the national wildlife policies within their areas of jurisdiction. These bylaws aim at helping the community

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[48] CITES, "CITES Secretariat Welcomes Adoption of United Nations Sustainable Development Goals with specific Targets to End Poaching and Trafficking of Wildlife."

[49] Tanzania Wildlife Research Institute, "Mission," accessed December 30, 2017, http://tawiri.or.tz/.

[50] Ibid.

around wildlife protected zones to feel the sense of ownership and responsibility on the protection of the animals in their locality.

Third, hunting companies (private sector) are required to record and report relevant details of all animals killed, wounded, or captured, according to the Wildlife Conservation Act 2009. The role of Non-Governmental Organizations (NGOs) is to provide conservation education to the public and assist district councils in the provision of extension services. Some of the companies associated with NGOs advocate for the government to address the poaching problem.

Special Measures

<u>Game Rangers</u>

Under the wildlife conservation Act, Tanzania established game rangers as custodians and protectors of elephants and all other wildlife in the parks and game reserves. The rangers are a paramilitary force that provide first line response against poaching in designated areas.[51] Tanzania's laws empower rangers to apprehend poachers and hand them over to the police for prosecution. The deployment of game rangers to protect wildlife is expected to result in increased elephant herds in the country. The game rangers conduct patrols and track poachers. They are trained and armed with rifles for self-defense but they are challenged by poachers that use assault rifles. However, the game rangers are poorly trained and ill-equipped. They lack night vision gadgets to enhance night operations. The poachers use all means possible to succeed in their means,

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[51] Tanzania Ministry of Natural Resources and Tourism, "Wildlife Conservation Act."

including superior technology, due to the large sums of money involved in ivory trade.[52]

As earlier discussed in Chapter 1, a British pilot on anti-poaching mission was killed in

Tanzania using assault rifles. Likewise, in 2017, a leading elephant conservationist and

director and co-founder of the protected area management solutions (PAMS) foundation,

Mr. Wayne Lotter, was shot dead in a taxi in Dar es Salaam, Tanzania, on his way from

the airport to a hotel. He had received previous death threats, according to the National

and Transnational Serious Crimes Investigation Unit (NTSC).[53] The organization funded

and supported Tanzania's anti-poaching laws which led to the arrest of more than 2,000

poachers and ivory traffickers, including Yang Feng Glan, the so-called "Queen of

Ivory", and several other notorious elephant poachers.[54]

TPDF in Anti-Poaching Drive

     The TPDF was established in 1964 and is comprised of the Army, Navy, Air

Force and National Service. The Army's primary task is ensuring territorial integrity and

offering support to civil authorities and responding to emergencies like natural disasters.

Other roles are supporting operations like peacekeeping operations. For a long time,

TPDF has been an essential part of military training and peacekeeping operations in East

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[52] *BBC,* "Tanzania Elephant Poachers Kill British Helicopter Pilot."

[53] Sophie Tremblay, "Leading Elephant Conservationist Shot Dead in Tanzania," *The Guardian,* August 17, 2017, accessed August 28, 2017, https://www.theguardian.com/environment/2017/aug/17/leading-elephant-conservationist-ivory-shot-dead-in-tanzania.

[54] Sanctuary of Mary, "Yang Feng Glan - Queen of Ivory - Arrested in Tanzania for Alleged Crimes," accessed October 12, 2015, http://sanctuaryofmary.blogspot.com/2015/10/yang-feng-glan-queen-of-ivory-arrested.html.

and Southern African regions. Since 2007, TPDF has been active in regional and international peacekeeping roles such as in the United Nations Interim Mission in Lebanon (UNIFIL), United Nations – African Union Mission in Darfur (UNAMID) and the United Nations Mission in Democratic Republic of the Congo (MONUC).[55] On the other hand, TPDF was involved in a regional war with Uganda under Idi Amin in 1978.[56] It has also participated training of Southern African liberation movements that included fighters from South Africa, Mozambique, Zimbabwe, and Zambia. Also, TPDF participated in training of the New Democratic Republic of Congo Army.

The Tanzania military recruits its soldiers from all districts despite tribal and religious differences in order to build trust within the general public. Soldiers are disciplined, intelligent and extremely motivated.[57] Therefore, the soldiers provided to the government a potentially suitable group for wildlife protection, considering the corruption challenges in the wildlife system and the introduction of assault rifles by the poachers.

In 1989, the Tanzania Government introduced *Operation Uhai* which involved Wildlife Department Forces, police, and the TPDF. The primary aim of the operation was to crack down on the wildlife poachers in all protected areas. The operation was conducted following a sharp decline in the number of elephants due to poaching. During the operation, more than 2,000 people were arrested and 10,000 weapons confiscated

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[55] Global Security, "Tanzania," accessed January 20, 2018, https://www.globalsecurity.org/military/world/tanzania/tpdf-history.htm.

[56] Ibid.

[57] Ibid.

from poachers. Borrowing from the successes of the 1989 anti-poaching operations, the government, under president Jakaya Mrisho Kikwete, revisited a military approach to the poaching problem in Tanzania. Hence, *Operation Tokomeza* was launched in October 2013. It was a joint anti-poaching operation that included the TPDF, police, and wildlife rangers.[58] The forces worked together flawlessly towards the accomplishment of the mission. Like it was in 1989, this military approach also led to the apprehension of many poachers and ivory traffickers.

In October 2013, a former Natural Resource and Tourism minister, Kagesheki, proposed to the parliament to endorse a shoot-to-kill policy, executing poachers on site, as the most suitable means to eradicate poaching.[59] Individuals who viewed this policy as an alternative to weak judicial systems supported Kagesheki's claims. The shoot-to-kill policy was not adopted due to human rights concerns.

Setbacks of Enforcing Anti-Poaching Efforts

The recurring underfunding of game management and protection in Tanzania affects enforcement of the conservation laws. Wildlife agencies and national parks have high financial requirements that are not even remotely met by the state. Ninety percent of all protected areas are not able to finance themselves.[60] Because of the lack in government funding they often become "paper parks" – protected areas that exist only on paper.

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[58] Global Security, "Tanzania."

[59] Linhphung, "Shoot-to-Kill Policy: Injustice in the Name of Conservation."

[60] Ibid.

Furthermore, rampant corruption within the government makes it difficult to implement measures to protect elephants and other wildlife, more especially that ivory trade is a lucrative business. The anti-corruption laws related to poaching and anti-poaching laws themselves are lenient. These factors have led to a fast declining numbers of elephants in Tanzania as discussed earlier in Chapter 1 of this thesis.[61] According to the Vanishing Point Report released by the Environmental Investigation Agency in 2014, corruption is the major facilitating factor in ivory trafficking. This phenomenon is a chain that starts with game rangers who provide information on patrol patterns of government forces and the location of elephant herds. Rangers then work with police officers who rent weapons and support the ivory transportation. The Tanzania Revenue Authority (TRA) then allows the shipment of ivory out of Tanzania into a wider network.[62] Even Tanzania works with the International Criminal Police Organization (ICPO) or international police (INTERPOL), these organizations acknowledge the difficulty of combating illegal wildlife trade due to complicated networks of cross-border organs involved in the vice.[63]

Furthermore, rangers are not motivated in their duties because they are paid very low salaries as compared to other workers of the same grade in other sectors. This causes

[61] Linhphung, "Shoot-to-Kill Policy: Injustice in the Name of Conservation."

[62] Environmental Investigation Agency, *Vanishing Point – Criminality, Corruption and the Devastation of Tanzania's Elephants,* accessed January 16, 2018, https://eia-international.org/report/vanishing-point-criminality-corruption-and-the-devastation-of-tanzanias-elephants/.

[63] Southern African Development Community, *SADC Law Enforcement and Anti-Poaching Strategy, 2015-2020*, November 6, 2014, accessed January 29, 201, http://www.gaboro-ne.diplo.de/contentblob/4715602/Daten/6225475/sadcleapfinal.pdf.

rangers to easily turn a blind eye on poachers and vulnerable to bribes. Some of them have been arrested for poaching elephants. A court process against poachers from nearby villages to Manyara Ranch Conservancy provides evidence to this claim.[64]

<div align="center">Chapter Summary</div>

Tanzania is part of a global and continental efforts against poaching. Like other countries, Tanzania has legal measures and organizations to curb poaching. However, there are certain unique approaches that Tanzania has applied to address its poaching problems. These measures have also applied in other countries such as the use of the military. Nevertheless, wildlife protection activists in Tanzania continue to face challenges that have led to a sharp decline in the population of elephants and other wildlife. Extreme poverty of the surrounding population in the conservation areas, inadequate funding of anti-poaching initiatives, corruption, ill-training and equipping of rangers, poor welfare initiatives for the rangers, introduction of assault rifles by poachers, and the complexities of the networks of ivory trade across borders have led to continued poaching in Tanzania. Past military intervention in Tanzania and other countries yielded positive results. This research investigates how a fresh military intervention can address the poaching problem in Tanzania. Chapter 3 highlights the methodology applied in this investigation.

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[64] Peter, "An Anti-Poaching Project Misfires in Tanzania."

CHAPTER 3

RESEARCH METHODOLOGY

<u>Introduction</u>

The purpose of this study is to investigate what the TPDF can do, as part of the Tanzania government, to support the anti-poaching program. The research question used for the study is, "What can the Tanzania Peoples Defense Forces do as part of the Tanzanian's government anti-poaching program to protect elephant herds?" This chapter discusses and examines the research methods used in the analysis of this thesis. The chapter outlines the specific design methods used to conduct and analyze the research variables. The research methodology used in this thesis is qualitative case study. The case study facilitates the comparative exploration of a phenomenon by using different data sources.[65] The qualitative methodology explains the relationships of variables used in the case studies. Both primary and secondary sources of information and data were used in this research to answer the research question of what the TPDF can do as part of the Tanzanian's government anti-poaching program to protect elephant herds.

Secondary data review was used as the primary research method for this study. The researcher used articles, newspapers, journals, books, reports, government sites and other websites, press releases, workshop papers, and other internet sources. The study was conducted between August 2017 and June 2018. The study focused on Tanzania's

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[65] Pamela Baxter, "Qualitative Case Study Methodology: Study Design and Implementation for Novice Reseachers" (Academic Research Paper, Nova Southeastern University, Ontario, Canada, January 2008).

national parks, and anti-poaching institutions, including private organizations. It also investigated military action against poaching as applied in two other African countries.

The Congruence Method

The study used the congruence method in its analysis. It is a type of qualitative analysis in which contested data is analyzed and compared within a case study. According to Leornard Barton, a "case study is a history or current phenomenon drawn from multiple sources of evidence."[66] This enabled the researcher to draw the results of the various relationships rather than comparing multiple case studies in order to measure the accuracy of the hypothesis. The congruence method tests a hypothesis's ability to predict "whether the variables vary in the expected directions, to the expected magnitude, along the expected dimensions, or whether there is still unexplained variance in one or more dimensions."[67] Case studies have been used with reliable results since 1900 in social research in the United States and other countries even though some critics argue that the method is sloppy biased because they signify a mistaken belief that numbers are more valid and reliable than just words.[68] This method was suitable for this study because it is allows easier understanding of the historical perspective. The case study methods

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[66] Chris Voss, Nikos Tsikriktsis, and Mark Frohlich, "Revisiting Case Research In Operations Management" (Academic Research Paper, United Kingdom, 2002), 195-200.

[67] George R.Taylor, *Integrating Qualitative Methods in Research* (Lanham, MD: University Press of America, 2005).

[68] Robert Yin, *Case Study Research Design and Methods* (Newbury Park, CA: Sage Publication, 1989).

was also appropriate for this study because it enables the generation of new questions for further studies.[69]

Selection of Case Study and Justification

This research used two case studies to compare with the Tanzania case to guarantee objectivity, reliability, and validity of the research outcome. Whereas the selection and sampling of case studies does not limit the number of cases, a fewer number of cases enable greater scrutiny of data in a case. Similarly, the danger of selecting a single case study is a likelihood to generalization the conclusion of a study.[70] These two conditions explains the choice of the two case studies: Republic of South Africa (RSA) and Botswana, for this study. Both of the countries are African countries with similar social-economic conditions around the park areas as it is in Tanzania. Also, both RSA and Botswana were a suitable selection as case studies for this study because they have made strides in curbing poaching of elephants. Again, both cases use similar approaches to that which Tanzania is adopting or already implementing in wildlife protection. The two countries have registered more successes from which Tanzania can borrow experiences. The anti-poaching approaches of similarity in the three countries include the involvement of local communities, use of the military, use of game rangers, and the application of international laws and policies on wildlife products. These are the same variables that form the basis of analysis in this research to guarantee meaningful results.

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[69] Voss, Tsikriktsis, and Frohlich, "Revisiting Case Research In Operations Management," 195-200.

[70] Ibid.

RSA and Botswana successfully curbed illegal poaching of elephants through the involvement of the local communities around the parks, training of rangers, and involvement of the military, implementation and enforcement of stringent measures. The situation in Tanzania is to the contrary with a risk of the extinction of elephants. Despite multiple measures by the government of Tanzania to curb elephant poaching, there has been an upsurge in killing and smuggling of ivory in the country. This has resulted in thoughts and questions of whether the use of cohesive means might arrest the situation. Even though the solution to a similar problem in one country may not apply in another, they can still provide a suitable baseline for assessment. Therefore, the analysis of the two cases in this study enabled a comprehensive comparison with the Tanzanian situation. Chapter 4 analyzes each variable separately using the same variables before comparing with Tanzania.

<u>Criteria of Analysis</u>

Four variables were assessed per case study. Each variable was scored objectively on a scale of 1 to 10. A higher score represented greater influence of the variable in making the mission successful while a lower score signified less influence. At times, some of the variables did not have standard measures; rather they showed behavior, attitudes, patterns, and trends that was used to determine the scores. Cumulative scores of all the four variables determined the outcome of analysis. The ant poaching programs that scored high in combined score matrix board are the desirable program to be employed in Tanzania. (See Table 1).

Table 1. Method of Analysis on Elephant Protection Measures with Scores of 1-10 Depending on the Level of Effectiveness of a Variable.		
Variables	Botswana	South Africa
International Laws and policies on wildlife products.	1-10 score	
Involvement of local community		
Military involvement in wildlife conservation		
Game Rangers and game warden		

Source: Created by author.

<u>Research Variables</u>

The four variables used in this analysis are:

1. International laws and policies on wildlife products.

2. Involvement of local Communities.

3. Military involvement in wildlife conservation.

4. Game rangers and game warden.

Involvement of Local Communities

Successful wildlife conservation requires the involvement of the local population. The local people must at least be involved in the decision making process. Also, they should receive material advantages from the game. Well-intentioned conservation can be counterproductive if it prohibits sustainable wildlife utilization by the local inhabitants. Pure animal protection concepts are often nothing more than modern forms of neo-colonialism, as they seek to impose ideological concepts from the rich nations on local

rural people. It is an illusion to believe that excluding the local people from wildlife and conducting vigorous law enforcement simultaneously will save the game.

Poachers come from many sectors of the society.[71] There are villagers who put out snares, or head out for meat hunting with an inherited antique muzzleloader. However, in reality even this kind of hunting is nowadays purely commercial. Commercial poaching applies in any case to the massive killing of elephants and other animals for monetary gains. Here, too, the poachers themselves often come from local villages. The intermediate trade and export is run by organized crime.[72]

Therefore, this thesis looked at the involvement of the local communities in the conservation and protection of elephants from poaching in both RSA and Botswana. This enabled the analysis of the effectiveness of the involvement of the local communities in control of poaching of elephants. In view of continued elephant poaching in Tanzania, it tends to raise questions whether the exclusion of local communities in wildlife conservation is what is contributing to increased poaching of elephants in the country. The effectiveness of the involvement of local communities in wildlife conservation will be scored for a total point of 10. The highest score of effectiveness closer to 10 and a score closer to 1 is awarded to the least effective that do not facilitate or contribute to the achievement of controlling poaching of elephants.

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[71] Rolf D. Baldus, "Poaching in Africa: Facts, Causes and Solutions," African Indaba, accessed March 27, 2018, http://www.africanindaba.com/2014/04/poaching-in-africa-facts-causes-and-solutions-april-2014-volume-12-3/.

[72] Ibid.

Employment of the Military in Wildlife Conservation

The intervention of the military in the conservation of wildlife is significant.
However, the experiences of the employment of the military in wildlife conversation in
countries where it has ever been used highlight the shortcomings of military intervention
in the socio-political context. Nevertheless, there is a likelihood of the military option
succeeding in the multi-dimensional case of elephant poaching. The local communities
experience daily the effects of ratcheting up the tensions between the middle classes
living in fortified houses while the 'have nots' devise increasingly sophisticated or violent
ways of transgressing the fortresses. It would appear that poachers are engaging in a an
'arms race' against the military. The more sophisticated the military intervention, the
more sophisticated the response from the poachers.[73] The military option has adverse
consequences for biodiversity and the people. The social impact of the military in
conservation areas is generally detrimental to local populations and to some of the
military personnel. It is also unsustainably expensive. This variable will be scored basing
on a scale of 1 to 10. The higher the score assigned to the variable the more its influence
and vice versa.

Game Rangers

Game rangers are armed paramilitary groups formed to protect wildlife. The
efficiency of game rangers as a variable was analyzed to establish evidence of their
responsibility. The research examined their relationship with the community, level of

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[73] Francis Masse and Elizabeth Lunstrum, "Accumulation by Securitization:
Commercial Poaching, Neoliberal Conservation, and the Creation of New Wildlife
Frontiers," *Geoforum* 69 (2015): 233-236.

training, equipping, output, and the incentives given to them. Again, the variable was scored basing on a scale of 1 to 10. The higher the score assigned to the variable the more its influence and vice versa.

International Laws and Policies on Wildlife Products

This variable was used on the premise that it is the core to all conservation efforts. As illustrated in Chapter 2, international laws and policies inform the national and regional policies on conservation. Through ratifications of laws, the nation is able to tailor the laws to suit its context. All other policies operate within a legal framework. The effectiveness of conservation laws determines the rate of poaching in a country. An analysis of the international laws the country has ratified and how it has used to its advantage is a basis of analysis in this thesis. Again, how well the other efforts merge within a common legal framework is another angle of analysis. The level of effectiveness of the laws and its timely and just application is another way of analysis in this thesis. Consequently, a score of 1-10 was used to determine the effectiveness of this variable. The higher the weight, the more effective the undertaking.

Presentation of Findings

The information gathered in this study were analyzed by the qualitative method of analysis. All information received from various sources were evaluated by combining different data with the purpose of getting a clear picture on poaching. Tables, figures, and script were used to visualize and present the findings of anti-poaching in the three countries. Each case study was analyzed separately but at the end all the results were

presented in a combined matrix for easy comparison and analysis of trends of events.

(See Figure 4).

Figure 4.   Combined Matrix Scoreboard for Anti-Poaching Measures

Source: Created by author.

Chapter Summary

This chapter describes the methodology employed in this research. A qualitative methodology with a case study design was used in this study. Both primary and secondary sources of information and data were used in this research. This research used two case studies to compare with the Tanzania case to guarantee objectivity, reliability, and validity of the research outcome. RSA and Botswana were selected as the case studies to draw lessons learned for Tanzania. Both cases were performing well in

elephant protection. These case studies were also selected because they used similar approaches of wildlife protection with Tanzania. They are also both African countries with similar settings. Four variables were used for the study: involvement with the local communities, employment of military means, game rangers and international laws and policies in wildlife.

The selection of the involvement of local communities was based on the premise that successful anti-poaching strategies depend on the extent the population, understand the value of the program, embrace, and own it. The employment of military means was used to examine the viability of TPDF intervention in the context of how it has worked in other places. This is the focus of this research. The game rangers work with the military. Understanding military intervention is possible if the role of game rangers is examined. All these interventions work within a framework of international laws and policies that govern the national laws.

Each variable was scored objectively on a scale of 1 to 10. A higher score represented greater influence of the variable in making the mission successful while a lower score signified less influence. Tables, figures, and script were used to visualize and present the findings of anti-poaching in the three countries. Each case study was analyzed separately but at the end all the results were presented in a combined matrix for easy comparison and analysis of trends of events.
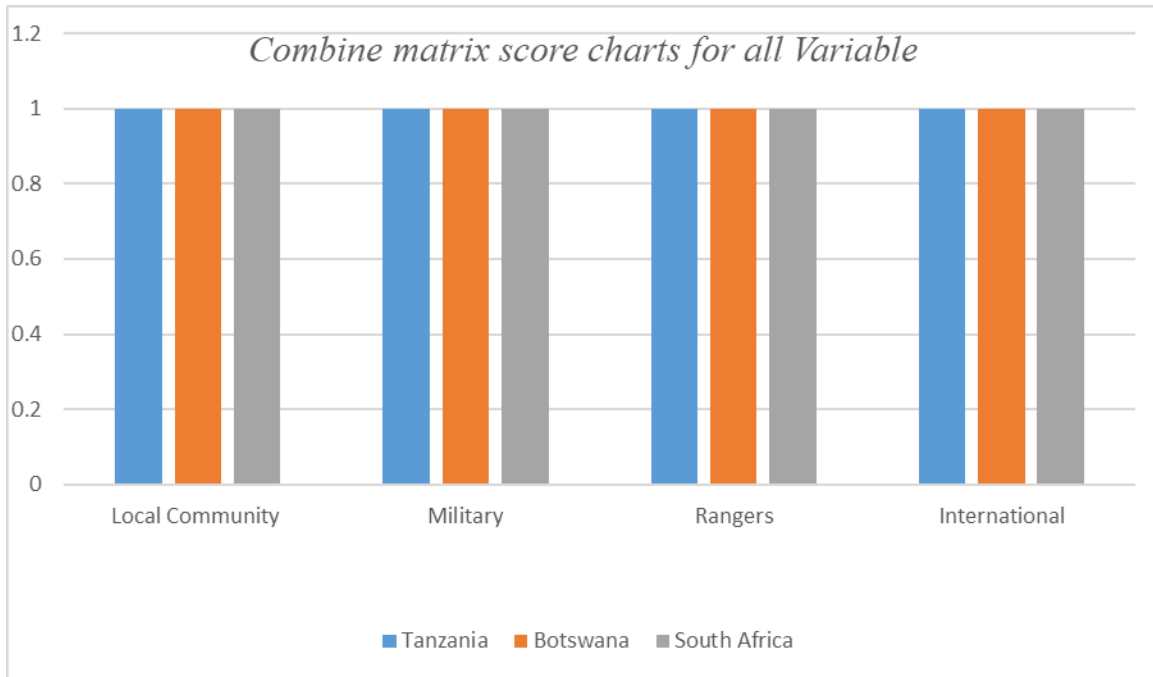
CHAPTER 4

ANALYSIS

Introduction

This chapter analyzes evidence adduced in Chapter 2 in order to answer the

primary and secondary research questions. The data will be analyzed to test the validity

and answer key questions raised in chapter one. The findings in this chapter will be the

basis for making recommendations on the best way to combat elephant poaching in

Tanzania. Literature reviews suggested that, the number of elephants in Africa has

decreased rapidly in recent years due to various causes. Poaching is primarily financially-

driven. In East Africa alone, it is estimated that illegal ivory trade has decreased the

elephant population from 109,051 in 2009 to 43,330 in 2014.[74] Tanzania being the home

for many elephants in the region is not spared by poaching.

Case Study 1: South Africa

The population of wildlife is decreasing at an alarming rate on the continent of

Africa. However, the conservation efforts put in place by the South African government

are helping to save certain wildlife species from extinction. The list of endangered

species poached and sold illegally is endless. The most poached endangered species

include Rhinos, for their horns; Elephants for their tusks; Tigers for their organs and

skins and many others. Unfortunately, as the population of these species decrease, the

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[74] Maraya Cornell, "Why Are Most of Tanzania's Elephants Disappearing?"
National Geographic, accessed September 6, 2017,
http://news.nationalgeographic.com/2015/06/150612-tanzania-environmental-
investigation-agency-mary-rice-elephants-poaching-cites-corruption/.

poaching problem has equally become complicated to address. The problem of poaching has not reduced but, instead poachers have become more methodical, more organized and more high-tech. Park rangers and governments are struggling to fight poachers with high-tech equipment and organized for poaching that use helicopters, night-vision goggles and high-powered rifles. The South African government has made a great stride in combating poaching. Technological advancement has not been limited to tools being used in modern poaching, they offer amazing solutions to tracking poachers as well. The following paragraph looks at the seven tools that are making a difference in the anti-poaching effort.

<div align="center">Involvement of Local Communities</div>

The Constitution of the Republic of South Africa (RSA) provides for the rights and obligations in environmental protection and conservation. In respect of the environment, the RSA Constitution stipulates that "the state shall ensure sustainable utilization, exploitation, conservation and management of the natural resources and environment to ensure the impartial sharing of the accumulating benefits; encourage public participation in environmental protection, management, and conservation; defend hereditary resources and biological diversity; and eradicate activities and processes that are likely to jeopardize the environment" Constitution of the Republic of South Africa (2010) Article 69 (1). The government of South Africa is successfully fighting poaching by engaging the local communities by provision of community awareness and policing on anti-poaching.

Currently, rural co-existence with wildlife is precarious and heavily aid dependent. The magnitude of the challenge of making it more self-sustainable in the

longer term clearly requires more than a law enforcement response. Just like in the olden days, rural community cooperation is indispensable.[75] The long-term survival of wildlife populations, and in particular the successful interventions to fight illegal wildlife trade, depends to a large extent on involvement of the local communities. When the benefits of tourism from wildlife trickle to the local communities, they will be motivated to support and get involved in anti-poaching campaign. Unlike where local people do not get any benefits from wildlife tourism, the support in the anti-poaching campaign by the local communities will not be forth-coming, in fact the local communities will be accomplices to the poaching vice as they will be benefiting somehow. Even the most focused and well-resourced enforcement efforts (which few countries can afford or have the political will to implement) will struggle to effectively control poaching in the face of good incentives offered to the local people by the poachers or indeed the criminal syndicates that benefit more from the proceeds of poaching.

Historically, African societies have had a good co-existence with wildlife, a function of the intrinsic value attached to ecological conservation in the African culture (Hadley, 1985; Marks, 1976). However, the institution of colonial centralized governments undermined customary laws as well as the authority of traditional African leaders who enforced them (Swift, 1982; Willis, 1985). As the colonial governments were unable to provide an effective alternative means of wildlife conservation, the result was a poaching "gold rush" for the riches of Rhino horns, Elephant tusks and other short-

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[75] EBCD, "The Role of Communities in Tackling Illegal Wildlife Trade," June 22, 2015, accessed March 27, 2018. http://ebcd.org/event/the-role-of-communities-in-tackling-illegal-wildlife-trade/.

term gains. Following independence, most African states maintained the colonial structure of centralized game departments and national parks systems. In most cases, wildlife management had been based on the adoption of punitive measures designed to maintain barriers between wildlife resources in protected areas and local residents living in or around such areas.[76]

South Africa has had more than a decade in efforts of dealing with wildlife management, and specifically with the serious poaching problem. Intensive law enforcement campaigns were conducted in selected parts of the country with substantial financial support. However, despite increased arrests, reduction in the wildlife population has continued; in some cases, they even increased where such programs operated.[77] National losses of wildlife resources during this period included a near extinction of the black rhino and the reduction of over 50 percent of the elephant population.[78]

Although law enforcement measures continued as an accepted deterrent to poaching, South Africa National Parks and Wildlife Services undertook experimental studies by Lewis, Kaweche and Mwenya in 1989 and a technical workshop done by Dalal-Clayton and Lewis, in 1984. During this period the research helped to identify the underlying causes of illegal hunting. As a result, a new national policy of wildlife

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[76] EBCD, "The Role of Communities in Tackling Illegal Wildlife Trade."

[77] D. M. Lewis, A. Mwenya, and G. B. Kaweche, "African Solutions to Wildlife Problems in Africa: Insights from a Community-Based Project in 1988," Food and Agriculture Organization of the United Nations, accessed January 16, 2018. http://www.fao.org/3/t8850E/t8850e04.htm.

[78] EBCD, "The Role of Communities in Tackling Illegal Wildlife Trade."

management called the Administrative Management Design (ADMADE) in game

management areas, was formulated to deal with these causes.[79]

Based mostly on people's participation, in the areas where it has been

implemented, ADMADE has proved to be very effective. For instance, in a three-year

period, poaching of elephants declined by over 90 percent in one wildlife area in South

Africa where local participation was actively promoted.[80] Furthermore, a resident

population of Black Rhinos and Elephants suffered not a single instance of poaching

during this period despite adequate numbers that could have attracted illegal hunters.[81]

This was achieved at a fraction of the cost assumed necessary to ensure adequate

protection of wildlife in Africa on a per km² basis by many wildlife experts (Parker,

1984; Bell and Clarke, 1984).

Combating wildlife poaching cannot be possible without community involvement.

Communities living near game parks and reserves, typically have the best knowledge

about who could be involved in poaching. When they are empowered and given a

stewardship role, communities become the "eyes and ears" in the anti-poaching effort,

and work closely with authorities to combat the threat of poaching and the illegal trade in

wildlife products,[82] Local communities if allowed to own and have access to protected

areas to sustain their life, may be willing to protect wildlife. In South Africa, local

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[79] Lewis, Mwenya, and Kaweche, "African Solutions to Wildlife Problems in Africa: Insights from a Community-Based Project in 1988."

[80] Ibid.

[81] Ibid.

[82] EBCD, "The Role of Communities in Tackling Illegal Wildlife Trade."

communities receive revenue from trophy hunting and plan their spending. This trend has changed communities' altitude, they are now cooperating with the government in protecting wildlife in their various communities.[83]

The South African government was able to use this strategy of addressing the problem of poaching bearing in mind that poor communities are vulnerable to economic pressures, and could lead them to poaching as a source of livelihood by providing information and accommodation to criminals involved in the actual poaching.[84] Therefore, it was crucial for the government to help support the rights and responsibilities of communities in wildlife management, and to support ways for communities to benefit from conservation, such as through greater returns from tourism and trophy hunting.[85] This approach is based on trust building, engagement and empowerment of communities, which enhance the social and economic benefits of conservation, which are just as vital as fighting poaching. Communities are able to profit from activities such as wildlife tourism and sustainable use of such resources while protecting species targeted by illegal trade[86]. The approach of engaging local communities helps in reducing human-wildlife conflict and supporting community efforts in advancing their rights and capacity to manage and benefit from wildlife and their habitats.[87] The approach empowers local

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[83] EBCD, "The Role of Communities in Tackling Illegal Wildlife Trade."

[84] Ibid.

[85] Ibid.

[86] Ibid.

[87] EBCD, "The Role of Communities in Tackling Illegal Wildlife Trade."

communities to manage wildlife sustainably and generate social and economic benefits. In a number of cases, the approach has been successful in reducing poaching in South Africa through incentivizing strong community engagement in the enforcement effort. There has been great reduction of poaching of wildlife in South Africa because of this approach to addressing the problem. Therefore, the effectiveness of this Approach in controlling and prevention of poaching of wildlife is scored 7 out of 10.

Employment of the Military in Wildlife Conservation

Poachers hunting South Africa's wildlife are getting tougher, killing the animals at an alarming rate. This has prompted the government to deploy the South African National Defense Force into Kruger National Park, where many of the poaching incidents have been taking place. There are more men now in the national parks with military standard equipment who ought to be a better match for the highly sophisticated criminal gangs that use helicopters and other high-tech equipment to target their prey. To sustain this approach, the government is providing special training for their rangers, creating anti-poaching task forces and using satellite imagery or drones to gain intelligence in certain areas

The military is working in conjunction with the police and the justice system in ensuring security in very complex situations and reduce wildlife trafficking that has been so detrimental to the population of tourism sector. The engagement of the military in wildlife protection has brought positive results in conservation such as inadvertently protection of wild animals. South African Defense Force (SADF) entered Kruger Park in the 1980s and militarized the border by deploying soldiers and building several military bases in the park. Although the aim was to stop anti-apartheid activists and refugees from

crossing the border from Mozambique, it also helped to transform park rangers into a sophisticated paramilitary force to combat elephant poaching.[88] Although this is not the primary role of the military, their involvement creates tension with the local communities, mainly because of the violation of human rights by the military. Therefore, the effectiveness of this approach in controlling and preventing poaching is scored 7 out of 10.

<center>Game Rangers</center>

South Africa uses game rangers for wildlife law enforcement in the game parks and reserves. Rangers also act as tourist guides and environmental experts. The rangers work under conservation departments, state park systems, or at national level under the National Park Service (NPS).[89] The rangers are deployed in different threat areas to not only protect wildlife but also the community around it from the possibilities of animal encroachment on civilian crops. They are also a source of security to the tourists.[90] The wildlife protection role of game rangers is tied to a goal of conserving the wildlife for the future.

It is not rare to see South African rangers conducting foot, horseback, or motor patrols in the park, as well as air reconnaissance done by the more specialized rangers.[91]

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[88] EBCD, "The Role of Communities in Tackling Illegal Wildlife Trade."

[89] Park Ranger, "What is a Park Ranger?" January 19, 2018, accessed March 03, 2018, https://www.parkrangeredu.org/what-is-a-park-ranger/.

[90] Ibid.

[91] Park Ranger, "What is a Park Ranger?"

<center>53</center>

The rangers are empowered by the constitution to arrest poachers. South African game rangers also conduct sensitization of the community around the conservation areas. The game rangers have successful managed to mitigate poacher problem because of high motivation at work. Privatization of some of national parks has improved the working condition of game rangers.[92] The management under private sectors is so confined to few individuals that it is easier to manage. Private parks are fenced for easier management.

However, the success of the game rangers has been washed down by them being used as a tool for land wrangles with the neighboring communities. The people are dissatisfied by the park demarcations that they believe deprives them of their birth land Ownership and control of the land has eroded the trust between the parks authorities and their neighborhood. In revenge, the neighboring communities often cooperate with poachers to provide important intelligence about the ranger operations and elephant movement patterns.[93] For example, Madikwe game reserve was awarded to an individual investor for conservation purposes in 1991. This land had initially been used for ranching and communal farming. The result has been a rise in violence against rangers and poaching of elephants.[94] There is divided loyalty amongst the rangers, some of who are born of the neighborhoods of the parks. This experience shows that the involvement of rangers cannot solve the poaching problem if other factors are ignored. The community

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[92] Ibid.

[93] Elizabeth Lunstrum, "Green Militarization: Anti-Poaching Efforts and the Spatial Contours of Kruger National Park," *Annals of the Association of American Geographers* 104, no. 4 (2014): 4.

[94] Daniel S. Licht, Rob Slotow, and Joshua Millspaugh, "Lessons from Park Management in South Africa," *Out of Africa* 25, no. 1 (2008): 23.

play a vital role in the success of any undertaking. Due to complexity of the relationships between the rangers with their people, owners of the parks, and their personal interests, the general effect of their performance make not much difference. Therefore, their effectiveness matrix score is 4 out of 10.

International Laws and Policies on Wildlife Products

South Africa rectified different international policies and treaties. Like other nations, policies rectified require the political will to implement them. The ban of ivory in the world market was rectified by South Africa but the trade continues through the black market. Initially, South Africa was one of the big markets of Ivory. The country targets to achieve full implementation of policy on ban of ivory market by 2021. South Africa is party to several international and continental efforts against poaching as illustrated in Chapter 2 of this thesis.

The efforts by RSA on conservation of elephants was welcomed by NGOs like SanWild Wildlife Trust and Blusky Society Trust that organized Elephant Ignite Expedition in 2016. The NGO group travelled a land distance of 16,000 kilometers in Africa to sensitize the communities on preserving elephants and the risk of extinction of the African elephant. Awareness in RSA is important due to some dangerous beliefs that endanger elephant existence. The belief that ivory in elephants grow like the human nails and can cure cancer remains a threat to the wellbeing of elephants. Therefore, RSAs involvement of the international private sector in sensitization programs aside from government's own efforts is commendable.

The international communities responsible for international conservation laws have no legal obligation to apprehend criminals but rather create awareness and relies on

the nations on implementation of the laws. However, there are some international intelligence networks like INTERPOL, of which RSA coordinates with, that help in curtailing international crimes like trafficking of ivory. Nevertheless, all these efforts are washed by a poor relationship with the surrounding populations that stem from land wrangles. Besides, the country has failed to stop organized criminal organs the deal in trafficking. The effects of porous borders have not spared the country either. A slow rate of implementation of ratified laws is a discredit to the country. The matrix score for this variable is therefore 04 of 10.

Table 2.	A Summary of Analysis of Anti-Poaching Programs in South Africa	
Variables	Effectiveness	Remarks
International laws and policies on wildlife products.	4/10	Some countries do not recognize International policies and laws on Wildlife products since they are not signatories.
Involvement of local community	6/10	Local communities are very proactive in Wildlife conservation since they source of income.
Military involvement in wildlife conservation	7/10	The use of the military has registered remarkable results in addressing the poaching of elephants. They are well trained and equipped hence , they are able to cover a wider area.
Game Rangers	4/10	They are subject collude with the poachers hence they are not very reliable. However they are able to monitor and track poachers.

Source: Created by author.

Case Study 2: Botswana

Botswana wildlife conservation and national parks Act 28, 1992 Chapter 38:01,

provides for the establishment, control and management of national parks and game

reserves in the country. However, given all elaboration on all matters related to wildlife

conversation, this includes endangered animals like Rhinoceroses and Elephants

protection. [95] This law is a pillars to other policies and initiatives developed in order to

protect Elephants from poaching. The other programs draw their legitimacy from this

law. Botswana is used as a case study so as to understand the Tanzanian initiative, by

analyzing the variables. Variables which are analyzed are laws and policies present in

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[95] Ecolex, "Wildlife Conservation and National Parks Act (Chapter 38:01) - Botswana," accessed Mach 8, 2018, https://www.ecolex.org/details/legislation/wildlife-conservation-and-national-parks-act-chapter-3801-lex-faoc004728/.

Botswana, role of the communities around National Parks and Game Reserves. Analyses will also be done on international organizations, game wardens/rangers and military in the protection of Elephants.

Poachers come from different sectors of society. There are villagers who use snares and traps, or hunt antique muzzleloaders. This type of illegal hunting is often romanticized in the Europe. However, in reality even this kind of hunting is nowadays purely commercial. Commercial poaching applies in any case to the slaughter of elephants and rhinos. Here, too, the poachers themselves often come from local villages. The intermediate trade and export is run by organized crime. In countries with desolate government administration, the military and police also poach regularly. Even the rangers themselves are often involved, especially if there is lack of discipline. Poaching can also be interwoven with other forms of crimes, such as cattle theft, robberies, drugs trafficking, or even trade in human body parts. The causes are also complex. Poaching provides income, and given the widespread poverty and unemployment, it is easy to find sufficient manpower for this industry. The theory that increasing wealth reduces poaching has not been empirically confirmed. Higher purchasing power often only increases the demand. Bad Governance is nearly everywhere a decisive factor.

The government of Botswana has laws that protect wildlife. These laws were enacted in 1992; Chapter 38:01 deals wildlife conservation and national parks. The nation recognizes the national parks as protected areas and prohibit any person to killing, hunts or capturing animals in national parks. Offences under this provision of the Act makes an

offender liable to imprisonment for 7 years or a fine of P10, 000 or both.[96] The law

provides a loop hole of paying fine and escape imprisonment. The ivory trade is highly

paying business which is conducted by rich people who can easily pay the fines and

continue poaching. The rules and regulations alone failed to prevent elephant killing.

Trophy dealers and businessmen are not adhering to the laws that govern the

management and protection of wildlife and national parks, but instead use its loopholes as

scapegoats for poaching in Botswana. Section 66 (1) of act allows killing of elephant for

a trophy and register with a police officer or a wildlife officer. Time required to register

the killing is seven days unfortunately this period can be used by the bad guys to smuggle

the ivory outside the country. Moreover, punishment of two years imprisonment or fine

of Pula 2000 does not scare away poachers as the fine for such an offence is far little

compared to the proceeds of selling one tusk.[97]

Involvement of Local Communities

Under the Botswana policy of 1983, the community was allowed the harvesting of

elephants with permits from Director of Wildlife and National Parks. The culling is

aimed at having more money in the protection budget of elephants and improve the living

standards of local communities. After the ban on elephant hunting that took effect in

2014; the money realized does not directly benefit the community around the National

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[96] Ecolex, "Wildlife Conservation and National Parks Act (Chapter 38:01) – Botswana."

[97] Ibid.

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Parks and Game Reserves.[98] Local communities' inability to have money for sustaining their lives, creates a sense of not benefiting from elephants in their communities. Due to the lack of directly benefiting from the wildlife, local communities do not provide adequate information to help the authority on anti-poaching programs. The score for this program score 4 out of 10.

<div align="center">International Laws and Policies on Wildlife Products</div>

Botswana launched a campaign to ban ivory trade on the international global market to protect elephants from extinction in Africa. Mr. Tshekedi Khama, the Minister for Environment in Botswana, during a global wildlife conference attended by 183 countries in Johannesburg South Africa, convinced the world to successfully ban ivory trade.[99] The ban on Ivory trade on the international market did not totally eradicate the problem of poaching in Botswana. Neighboring countries like Zimbabwe, Namibia, and South Africa lobby the selling of legally harvested ivory from old and natural death of elephants.[100] This lobbying encourage poachers to smuggle ivory across the border to other nations which sells culling ivory in legal ivory market.

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[98] D. M. Lewis, A. Mwenya, and G. B. Kaweche, "African Solutions to Wildlife Problems in Africa: Insights from a Community-Based Project in 1988."

[99] Emma Ledger, "Botswana Praised for Dramatic Switch to Protect Elephants," *Independent,* 7 October 7, 2016, accessed March 8, 2018, https://www.independent.co.uk/voices/campaigns/GiantsClub/botswana-praised-for-dramatic-switch-to-protect-elephants-a7349936.html.

[100] Ibid.

Employment of the Military in Wildlife Conservation

The Botswana Defense Force has been involved in the anti-poaching effort since 1987 which started after a massive killing of Elephants and Rhinos. In Botswana there are organized criminal groups which poach Elephants for ivory and Rhinos for their horns. The sale of Ivory and Rhino horns provide money that fund guerilla fighters, equipped with military weapons and they are skilled in bush warfare.[101] These ganga of criminals either live in Botswana or operate across borders. The Botswana Defense Force reports that some of the poachers are led by people with military backgrounds. Due to the complexity the problem coupled with the sophisticated approach to poaching, the anti-poaching program adopted a shoot-to-kill policy and deploys soldiers in some areas as one of the most effective measures that can help stop poaching. Specialized paramilitary protection and intelligence gathering units were formed in 2014 and are responsible for protecting rhinos. The paramilitary groups work in conjunction with anti-poaching operatives from the police, prisons, intelligence, and the army. Although Botswana is facing a budget challenge in implementing wildlife management programs, its reputation of zero tolerance to poaching has helped to prevent foreign groups operating in neighboring countries of South Africa, Zimbabwe, and Zambia from coming into the country.[102] Wildlife authorities indicate that there was a decline of elephant poaching from 84 in 2015 to 36 in 2016.[103] (See Figure 5). This decline was due to the involvement

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[101] Dan Henk, *The Botswana Defense Forces in Struggle for an African Environment* (New York: Palgrave Macmillan Ltd. Publishers, 2007).

[102] Ibid.

[103] Ibid.

of the military in addressing the problems of poaching. The military is very effective and reliable mechanism of solving the rampant problem of poaching. The shoot to kill policy for armed poachers has already resulted in the deaths of suspects from Zambia, Namibia, and Zimbabwe. The use of night vision equipment in Botswana assists in fighting poachers at night. The civil military relationship helps the military to get intelligence on poachers in protected areas.
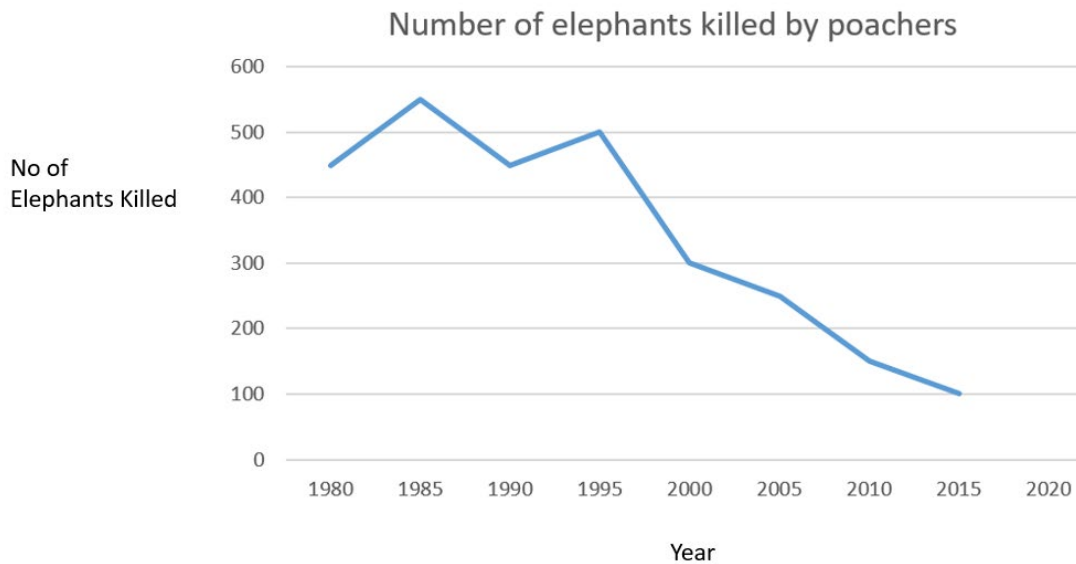

Figure 5.   Impact of the Military Intervention (since 1992) on the Number
of Elephants Killed by Poachers in Botswana

Source: Created by author.

Game Rangers

Botswana had for many years enjoyed its status as one of the largest stronghold of African elephants in the world. The first formal census was conducted in 1976 and

recorded 110,000 elephants.[104] This was believed to be the carrying capacity of the 50,000 km^2 wildlife country. This population of elephants faced an onslaught beginning the early 1980's.[105] Botswana is renowned for its spectacular wildlife and pristine wilderness areas and, unlike other African countries, it is winning the war against rampant poaching. Botswana is a peaceful country, and save for a small misunderstanding with its northern neighbor Namibia about an island in the Chobe River, there have been a few instances where its highly trained army has been put to use in an incident of potential conflict.

The northern boundary of the country with Namibia is also where some of the country's richest wildlife areas are located, and where there was an issue with cross-border poaching in the 1990's. The army was in the area patrolling the border and it made sense to use them to protect the wildlife. The then head of the Botswana Defense Force was Ian Khama, a wildlife enthusiast and now former president of Botswana, and he formed Wildlife Game rangers, an anti-poaching unit to assist in the battle against poaching.[106]

So successful was the Wildlife Game ranger unit that it became a permanent pillar of wild conservation in Botswana and was the subject of a successful National

[104] Nick Visser, "Wildlife Rangers Are Using Military-Grade Technology to Catch Poachers, And It's Working," *Huffington Post*, November 21, 2016, accessed January 4, 2018, https://www.huffingtonpost.com/entry/wwf-thermal-imaging-poachers.

[105] Ibid.

[106] David Leveille, "When you Buy Ivory, you may be Funding al-Shabaab terrorists," PRI's The World, accessed February 20, 2018, https://www.pri.org/stories/2013-10-08/rangers.

Geographic Document titled Wildlife Warriors. They serve under various titles—rangers, forest guards, game scouts and field enforcement officers—but share a common purpose: to protect the world's natural and cultural treasures. Rangers work tirelessly to watch over some of the most endangered wildlife on the planet, like tigers, elephants and rhinos.[107] Many of these animals are among the most widely targeted by poachers for the illegal wildlife trade, and rangers regularly pay with their lives while trying to keep them safe.

Botswana trains its Wildlife rangers in basic Military and Wildlife Management. The Wildlife ranger conducts patrols. Some Wildlife Rangers have specialized in the sniffer dog unit. The rangers do progression courses, once a ranger has a done basic wildlife game ranger, he /she can proceed to do the advanced wildlife Rangers course. The Advanced Wildlife Rangers are an elite ranger force in the in Botswana Wildlife Department, consisting of Parachute/Commando units. It is a support-reconnaissance unit. The training consists of 15 weeks of physical and psychological endurance.[108] In addition to physical conditioning, the Advanced Forces learn hand-to-hand combat, survival techniques, military tactics, map reading and radio transmission. Followed by a 4 weeks' wildlife management course and wildlife capturing course.

The Game Ranger, play a number of roles in environmental management and protection includes any of the following: planning, conducting and reporting on controlled burns, ecological burns and responding to wildfires, protecting and

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[107] Leveille, "When you Buy Ivory, you may be Funding al-Shabaab terrorists."

[108] Revolvy, "African Wildlife Defence Force," accessed January 19, 2018, https://www.revolvy.com/topic/African%20Wildlife%20Defence%20Force.

maintaining biological diversity by managing threats such as feral animal populations and eradicating or controlling weeds and participating in scientific surveys, protecting endangered and/or threatened native plants and animals, patrolling the park to check fences, monitor invasive species and visitor activities, assisting in wildlife management projects, including surveying, and monitoring of wildlife.[109]

Wildlife Rangers also have roles in the area of joint management that include: working in partnership with Indigenous traditional owners to best manage the park estate, conducting programs to develop and involve Indigenous Ranger groups and communities in land management activities, building relationships and working with remote community groups on a diverse range of park developments and protecting and recording cultural and historic sites.[110]

Botswana has one of the highest conservation land ratios in Africa with more than 25 percent of the land area set aside for parks and reserves to conserve the national heritage of the country.[111] The government's policy of low volume high cost tourism has been successful, albeit controversial. The policy limits the number of visitors but in turn charges high prices for the privilege of intimacy.

With a concerned government and firm planning the future of the Botswana Tourism industry is secure for now, and will continue to grow and provide visitors with

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[109] Phys, "Kenya Anti-Poaching Dogs Wildlife Friends," accessed April 2018, https://phys.org/news/2018-02-kenya-anti-poaching-dogs-wildlife-friends.html.

[110] Ibid.

[111] Ibid.

the ultimate African safari experience.[112] Another dry season census was undertaken in

1989, this time only three years after the previous census. This census was done in order

to establish the baseline population of elephants at the outset of the program. The story

was even worse-off, grimmer, and more consternating. The census registered slightly less

than 30,889 elephants in the ecosystem.[113] This was shocking but was also a good ground

for commitment on the part of the Government of Botswana.

The Game Rangers do combat training and are inspired discipline among them a

sense of responsibility and commitment to anti-poaching. The only way to deter poachers

from operating in parks and game reserves was for the rangers to register presence in all

the areas of the reserves, this required the government to recruit, train and equip the game

rangers. This had a profound results and poaching was absolutely contained. A census

conducted in 1994 registered 52,234 elephants, in 1998, there were 55,672 elephants, in

2002, 63,039 elephants and in 2006, 70,406 elephants. This was an increase of 39,517

elephants from the lowest dry season count of 1989. At a conservative estimated

population increase of 6 percent.[114]

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[112] Phys, "Kenya Anti-Poaching Dogs Wildlife Friends."

[113] Zambia Tourism, "Game Rangers International: Who We Are, What We Do," accessed March 20, 2018, http://www.zambiatourism.com/about-zambia/conservation/game-rangers-international.

[114]Ibid.

Table 3. A Summary of Analysis of Anti-Poaching Programs in Botswana		
Variables	Effectiveness	Remarks
International laws and policies on wildlife products.	4/10	This variable is not very effective means of addressing the problem of elephant poaching since some countries are not signatories to such wildlife policies and their laws are not applicable to them
Involvement of local community	7/10	An effective variable since it makes the local populations develop a sense of ownership of wildlife as it provides employment to the population around parks and game reserves.
Military involvement in wildlife conservation	8/10	The most effective means of curbing elephant poaching since the military are well trained and equipped.
Game Rangers	5/10	They are not very effective because they are not well equipped and their strength is limited to dominate the parks and game reserves. They are also easily corrupted by the poachers.

Source: Created by author.

Findings

This research established that anti-poaching programs are programs that involve different sectors. Governments and local communities should cooperate to protect elephants; it is an interdependence operation. If elephants become extinct in Tanzania, some of the effects may include less foreign currency because many tourists who come to the country specifically to see elephants would not visit. Moreover, the security of the state may be in danger as the money from ivory trade could fund terrorism and other illegal activities. Additionally, poaching has negative impacts on the ecological system due to environmental destruction since elephants perform essential roles in the ecosystem.

The variables from countries' case studies indicated different causes of poaching, each drives for establishing different initiatives for anti-poaching programs. These

initiatives are variables in the research whose results are compared with Tanzania's case and establish the base for the findings. The comparison of selected case studies and Tanzania's initiative based on the engagement of local communities, the efficiency of game rangers and law enforcement agencies, International and military intervention in anti-poaching programs.

Involvement of the Local Communities

The study indicates that local communities are ready to comply with established laws and norms. Poverty and unemployment hinders the community from being devoted to the protection of elephants in Tanzania. Wildlife poaching in the country is associated to poverty and unemployment because wild animal products such as elephant tusks provide a source of livelihood. People living in areas near the national parks and game reserves are poor because they do not have reliable sources of income.

Trophy and sports hunting is allowed in the country as a way of attracting tourists. The revenue realized is used for wildlife conservation; for example, Africa realizes approximately USD 200 million annually from the tourism. In Tanzania, sport hunting provides approximately USD 90 million yearly and 23 percent of that is given directly to the wildlife department to run conservation programs.[115] The World Bank in 2009 provided guidelines for trophy hunting in order to facilitate for the protection of endangered spices. These funds did not reduce poaching, because between 2009 to 2014 the number of elephants dropped drastically from 20,000 to 10,300. Therefore, trophy

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[115] John Owens, "Sport Hunting Revenue," The University of Texas, accessed January 13, 2018, https://sites.utexas.edu/wildlife/2014/11/10/sport-hunting-revenue/.

hunting in these countries resulted in the near extinction of elephants. Kenya and

Botswana banned sport hunting.[116] Trophy hunting is legal but this has been used as

blanket to cover poaching since hunters have killed animals contrary to agreed terms and

conditions.[117]

The growth of human population in Tanzania is also a threat to elephants. There is

a high demand for habitats as agriculture expands to wildlife reserved areas. Reports

suggest that 29% of the existing elephant population is affected by infrastructure

development; human population growth, the rapid urbanization and agricultural

expansion. It is projected that this figure may increase to 63% by 2050, particularly in

West, Central, and Eastern Africa. Elephant herds moving seasonally in search of water

and forage cross human settlements and this also leads to killings. People kill the

elephants to protect their crops without understanding the impact to national economy

and the ecosystem. There is also a lot of people in the local communities who are bribed

by poachers for human intelligence.

Raising awareness within local communities around wildlife areas is essential in

combating elephant poaching. However, because of extreme poverty, sometimes local

communities cooperate with poachers so that they can get some money or elephant meat.

For this method to be effective, wildlife management organizations should provide

income generating opportunities to discourage local communities' involvement in

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[116] Adam Cruise, "Can Killing More Elephants Actually Help to Serve Them?" National Geographic, July 8, 2015, accessed January 14, 2018, https://news.nationalgeographic.com/2015/07/150708-trophy-hunting-poaching-elephants-lions-rhinos-africa/.

[117] Owens, "Sport Hunting Revenue."

poaching activities. These communities should have the sense of ownership and have direct benefits from conservation; and to be effective, these benefits should exceed those they from poaching and trafficking activities. Another advantage to this method is that communities can easily mobilize and organize themselves in preventing crimes associated with wildlife and have the ability to form information networks and enforce the relevant laws and policies. However, research shows that in Botswana and Tanzania, even though communities have been given revenue as motivation to protect animals, the numbers of elephants continues to be depleted.[118]

This method of community involvement is workable for sustainable wildlife management but it involves a risk if poachers are coming from out of the community compared to those living within the community. Secondly, when organized criminal gangs are responsible, it is difficult for communities to combat it. Thirdly, it may not be workable if the communities have insufficient training and poor equipment. Therefore, serious strategies should be implemented to reduce community risks as currently poachers are using high-level technology and they have high influence in the community. More than one strategy could be implemented at a time; for example, combine community education and policies and militarize anti-poaching activities. From the above context the methods of involving community alone have failed due to corruption and involvement of local leaders in poaching.

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[118] Cruise, "Can Killing More Elephants Actually Help to Serve Them?"

Game Rangers and other Law Enforcers

The Tanzanian government has worked hard in the fight against poaching, but the problem continues. However, the law enforcement agents whose duty it is to safeguard the elephants are underpaid and this has contributed to corruption among them. The Wildlife Rangers and Warden are poorly equipped yet they have to confront poachers with sophisticated weapons and better equipment in conducting anti-poaching operations. Smugglers use many different ways of transporting their kills out of the country. Game Rangers in Tanzania operate and share information with other wildlife partners like the community and NGOs like The Protected Area Management Solutions (PAMS). PAMS trains thousands of game scouts/rangers in the country and sponsors education initiatives like school wildlife clubs. PAMS also works with farmers to reduce human-wildlife conflicts, it cooperates with law enforcement agents and has a special task force that identifies poachers and trafficking networks in order to take legal action against them.[119]

Poachers are not only a threat to wild animals but threaten innocent people who are responsible for ensuring the wildlife sector is well protected. Studies show that poachers are often organized criminals with tremendous resources, which they use to recruit new members from within the wildlife department to including rangers. They equally threaten individuals who refuse to cooperate, and also bribe the underpaid

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[119] Tremblay, "Leading Elephant Conservationist Shot Dead in Tanzania."

wildlife wardens and game officials.[120] Bribed rangers provide intelligence information which enables them to evade prosecution by law.

<center>The Good International Market for Ivory</center>

The global ivory market has increased dramatically in recent years. Ivory is used for ornaments as well as for medicine, hence poaching continues since they have a stable and lucrative market. However, local small-scale poachers are often connected with rich and powerful criminal networks and that gives them confidence. Poaching networks involve many countries, from its origin to the market. In order to combat poaching, the international community should continue working together in implementing strategies because it is not possible for individual countries to fight the illegal Ivory trade. This is because poaching is a transnational crime therefore cooperation among various governments in necessary to tackle it. In some circumstances poaching activities are believed to finance dangerous international groups like Al Shabab and Boko haram.[121] Illegal Ivory sales have been reported to help in buying of weapons for terrorists.

Convention on International Trade in Endangered Species (CITES) banned the international commercial trade in 1989, making ivory trade illegal. On the other side ivory from legitimate sources such as natural deaths could be sold to CITES-approved buyers only (Japan and China) who agreed not to re-export it. In such circumstances the

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[120] UNEP, CITES, IUCN, and TRAFFIC, "Elephants in the Dust: The African Elephant Crisis," accessed Aug 22, 2017, https://cites.org/common/resources/pub/Elephants-in-the-dust.pdf.

[121] OIPA International, "Stand for Elephants," accessed May 13, 2018, http://www.oipa.org/international/stand-for-elephants/.

funds raised are used for elephant conservation.[122] Although the international community

has banned ivory trade, elephant killing continues to rise mainly due to the high price of

ivory which is estimated to be 1000US$/Kg.[123]

<p align="center">Militarization of Anti-Poaching</p>

In 2013, the Tanzanian government launched a militarized anti-poaching

operation termed "Tokomeza" or "terminate" aimed at cracking down on suspected

poachers. Despite some disadvantages, the operation was necessary for fighting

poaching. Operation Tokomeza contributed to the arrest of more than 950 suspected

poachers, 104 tusks seized, 31 illegal firearms and 1,458 rounds of ammunition

confiscated.[124] The militarization of game rangers and park wardens' operations was

suspended by law makers because of the concern of infringing on human rights, though it

yielded good results in a short time.[125]

As discussed in the case studies, Tanzania has a lot to learn from other countries

on how to use the army in combating poaching. Countries like Botswana and South

Africa, have used the military effectively to reduce poaching in a short period of time.

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[122] Eddy Kimani, "Do Ivory Sales Encourage Elephant Poaching? Or just the opposite?" Word Press, January 07, 2007, accessed February 10, 2018, https://eddykimani.wordpress.com/2013/01/07/ek-do-ivory-sales-encourage-elephant-poaching-or-just-the-opposite/.

[123] Ibid.

[124] Graduate Institute of International Studies, *Small Arms Survey 2015: Weapons and the World,* 27.

[125] Mark Gillies, "Operation Tokomeza," Tanzanian Affairs, accessed April 21, 2018, https://www.tzaffairs.org/2014/05/operation-tokomeza/.

This method includes training of wildlife park rangers and game wardens. The militarization of anti-poaching activities in Southern African has managed to control and reduce poaching. The policy of shoot to kill scares away many poachers before they have a chance to bribe law enforcement personnel. In 1989 Zimbabwe alone killed 170 poachers. The killing sends a clear message to all poachers on how serious the government is with the fight against poaching.[126] The militarization in countries surveyed indicates that it has contributed to stopping and deterring poaching.

Tanzania Peoples Defence Forces Capacity to Conduct Anti-poaching

The strength of the TPDF is includes: well-disciplined and trained soldiers in various tactics, and the soldiers are skilled and professional. TPDF has no history of involvement in corruption/bribery; and can face groups with superior weapons and high tech equipment. Moreover, most poachers have military and security backgrounds. Therefore, the use TPDF could reduce the risks of using other methods.

Poaching is conducted by organized crime syndicates; TPDF is well organized to ensure the security of the country. The TPDF is well suited to combat organized crime because of its wide and strategic coverage of the country and capability to conduct prolonged and all weather operations. Capabilities like unmanned aerial vehicles (UAVs) and other technical intelligence capabilities as well as aerial war assets are additional advantage the TPDF has. They can be equipped with missiles that can be secretly launched to target poachers without being noticed by anyone and can provide evidence

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[126] Cheteni, "An Analysis of Anti-Poaching Techniques in Africa: A Case of Rhino Poaching."

that can be used in the courts of law to prosecute the offenders. However, the use of

drones in anti-poaching requires a huge investment by the government and private

organizations because they are expensive to acquire and maintain.[127]

Table 4. A Summary of Anti-Poaching Solutions in Tanzania				
Solutions	Cost	Implementation Barriers	Positive Outcomes	Negative Outcomes
International community should join forces to ban ivory trade in the world.	Not expensive	Some states don't see the importance of enacting laws against poaching and banning of ivory trade as they don't have elephants in their countries.	-Elephants population increase and be preserved for future generations. -Increase Tanzanian tourism revenue .	-Some business firms will be closed and poachers will lose market eventually increasing unemployment in the country. -Some states don't see the importance of enacting laws.
Community education and policing.	-Solution is inexpensive, utilize community leaders.	-Finding of new alternative economic activities for poachers.	-Poachers will be easily identified as they live within the communities.	-Politician may impede the implementation of this solution citing it to be expensive. -Corruption of local leaders.
Military to provide training and leaderships to wildlife department personnel	Not expensive	-Contradiction between wildlife authorities and Military regarding the laws governing wildlife conservation. -Political perspective of separation of powers in government departments. -Opposition of leadership to accept changes.	-High standards of discipline and professionalism can be achieved for elephant conservations. -Have superior weapons. -The elephant population will increase. -Poachers will be eliminated.	-Poor cooperation among actors who benefits from Poaching. -Changes may be considered to undermine other authorities.
Game Rangers and Wardens	N/A	-Are available in all National Parks.	-Living with Elephants Patrol area.	-Poaching continues elephants herds reduction.

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[127] Lunstrum, "Green Militarization: Anti-Poaching Efforts and the Spatial Contours of Kruger National Park."

Source: Created by author.

Border Protection; TPDF has experience in protecting the country's borders. This is important especially in fighting against poachers who move across borders of two or more countries. The use of the army is essential in controlling small arms trafficking from neighboring countries, especially those experiencing conflicts/wars like Burundi and DRC. To ensure the effective implementation of this method, game wardens should undergo compulsory basic military and leadership training. The table below shows the summary of the possible three anti-poaching solutions which were used as variables in Tanzania.

<u>Combined Score Board Matrix</u>

The chart of causal relationship analysis in Figure 6 provides a finding on each variable used to determine the best methods to be employed in Tanzania. The relationship of methods employed in the case studies suggest the militarization of anti-poaching will be the best means to protect elephants in Tanzania. The employment of military alone cannot yield positive results but require to be augmented with other variables to positively protect elephants. From analysis, the use of military in the policy of shoot to kill of poachers has helped to increase population of elephants in the protected wildlife areas.[128]

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[128] Henk, *The Botswana Defense Forces in the Struggle for an African Environment.*
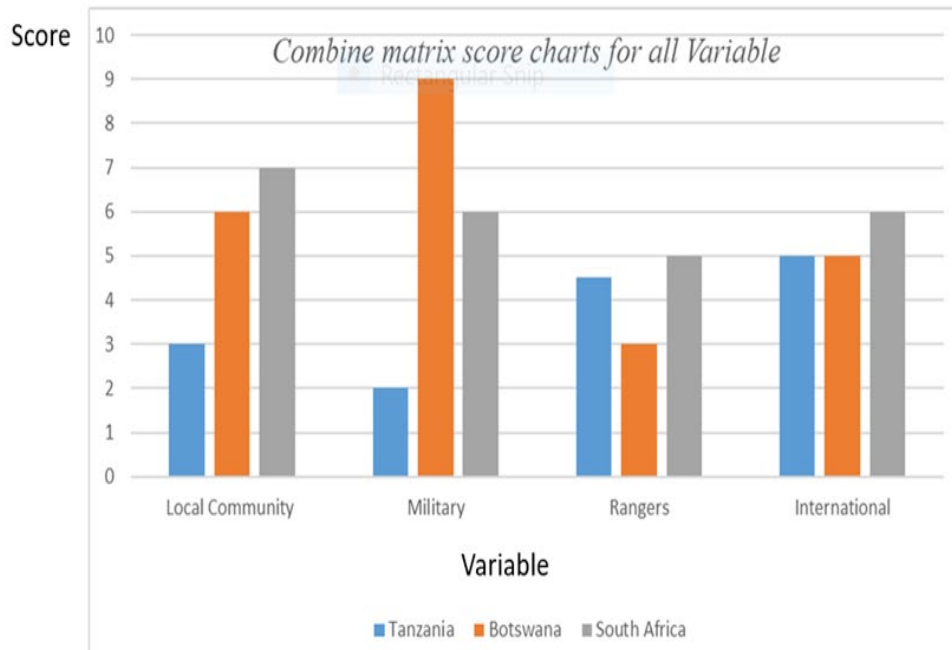
Figure 6. A Comparative Analysis of Performance Between South Africa, Botswana and Tanzania on Elephant Anti-Poaching Measures

Source: Created by author.

<u>Chapter Summary</u>

In Tanzania, the problem of elephant poaching is complex due the nature and issue of occurrence; this suggests that the problem cannot be solved with a single solution. There are numerous factors involved in elephant killing, such as there is an attractive international market for elephant tusk (ivory); the nation allows wildlife sport hunting; and the increase in human population and its proximity destroys and minimizes animal grazing areas; and individuals may become attracted to poaching because of their poverty, poor national park and game reserve management; and corruption of game

wardens and those responsible for enforcing laws. If managed appropriately, these

phenomena may be key to reduce elephant poaching in Tanzania.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The findings from the study indicates that Botswana and South Africa have made strides in addressing the problems of elephant poaching. The two countries are addressing the problems through, the involvement of the local populations around the parks and game reserves, use of the military in securing and protecting wildlife, implementation of international laws and policies on wildlife especially endangered species, and employment of game rangers. Judicious implementation of these mechanisms have resulted in a rise in the elephant population.

Tanzania is facing a serious problem of elephant poaching. To combat this problem of elephant poaching however, Tanzania may need replicate the strategies used in Botswana and South Africa. The strategy used in Botswana and South Africa if used, is likely to yield positive results in solving the problems of elephant poaching. The effective ways for solving the problem of elephant poaching, is the use various methods like the involvement of local communities around the parks and game reserves, use of the military in wildlife protection, employment of game rangers and through international efforts. Both case studies show no one methods singly curbed poaching but a combination of different approaches. Elephants are among some of the renewable resources that need protection of their reproduction cycle. For Tanzania to address the problem of poaching, there is need to use the military in wildlife protection. The rate at which elephants are being poached, risk getting into extinction, and future generation will have no elephants.

Various strategies in combating poaching in Tanzania have been implemented by the government, local private institutions, and international institutions like the United Nations. Although these efforts are taken, elephant killing is still on going. Many people are involved in the illegal killing of elephants because the lucrative price of ivory especially in Asian and the US black markets. Various anti-poaching efforts which have been implemented and discussed in this study did not yield desired results.

Conclusion

The primary question of the research on what Tanzania Peoples' Defence Forces can do as part of Tanzanian's government anti-poaching program to protect elephant herds was answered. The data analysis in all chapters of this study has given evidence that civilian authority cannot curb poaching in Tanzania. Lack of equipment and adequate training put them in disadvantaged position to poachers. Thus, TPDF has to be included in anti-poaching programs to protect elephants from depletion. Change of policy and laws to empower the military could not only be operated on the aid to civilian authority but to be part of everyday duties. The changes could eliminate poaching and the herds of elephants could increase due to the capabilities that the army has as opposed to the relatively lethal poachers.

There is a need to implement urgent and serious anti-poaching strategies in Tanzania to reduce wildlife poaching which have been on the rise in recent years. It is crucial to combat poaching because it is not only a threat to animals like elephants and rhinos but affects the ecosystem and tourism. In fighting poaching, there are three possible solutions, which are used by international communities; community educating and policing, and militarization of wildlife rangers and wardens. Game rangers should

undergo basic military training and be equipped with modern equipment to include night vision equipment and drones.

Stemming from the analysis in Chapter 4, there is need to declare poaching as a national disaster and appropriate measure to address the situation be found and implemented. TPDF, because of its strength and achievements in various operations, have the capacity to protect elephants from poaching. The 'Tokomeza' experience, depicted effectiveness addressing the problem of poaching. The militarization of anti-poaching efforts has advantages and disadvantages. The benefits include the high number of arrests, seizures of weapons, ivory, and ammunitions while the negative consequences include threats from firearms and violation of human rights in conducting operations. Despite negative consequences, military effort is seen as the best solution.

Currently there is an international ban on ivory trade, but in some countries are still trading despite the ban. Although in some circumstances ivory trade is legally accepted, for example, when tusks are taken from elephants that died because of old age, diseases or accident. But because of the huge profits, poachers kill health elephants to get its tusks. Ivory trade should be banned completely because it will lead to the extinction of elephants. There is a need for the international community to take actions to raise awareness that people should boycott ivory products as the way to stop illicit activities and save animals for the benefit of current and future generations. There is a general unwillingness of individual countries to enact laws and establish relevant policies to help international strategies.

Alternative Economic Opportunities

There is a need to generate alternative income sources to help reduce elephant poaching. Local communities get involved in poaching despite the risks because they need an income for their livelihood, so it is possible for them to stop poaching if provided with alternative sources of income. The alternative sources may be created through direct or indirect employment in the parks/games or through tourism activities. South Africa implemented this by giving the revenue from trophy hunting to the local community who now support the effort by giving human intelligence to wildlife authority.

The international community must take urgent action to end poaching and trafficking of endangered species and address the demand and supply of illegal wildlife products. The NGOs, like IWT, apart from supporting the efforts to eliminate poaching and smuggling of protected species, should also assists to boost the economy of local communities. The economic aid encourages villagers to pursue sustainable livelihoods and seek other opportunities instead of depending on poaching.

Strengthen Regulatory Authorities

Regulatory authorities responsible for wildlife (elephant) poaching include Tanzania National Park Authority (TANAPA), responsible for management of national parks, authorities responsible for management of game reserves like Ngorongoro Conservation Area Authority (NCAA), police responsible for enforcement of laws, customs responsible to ensure that commodities to be exported are those allowed according to laws and Prevention and Combating of Corruption Bureau (PCCB), responsible for fighting corruption should be supported. It is essential for these

organizations to work in collaboration, especially with information sharing to ensure anti-poaching mechanisms are working.

Countries should work together to ensure that smuggling of ivory across borders by poachers is completely stopped. Collaboration is the only way of tracking this trade and observing poacher networks from their preparations, to killing of elephants, transportation of ivory and selling/market of trophies around the world.

Change of Policy and Laws to allow Military

The Tanzania government should rethink militarization approaches to stop wildlife poaching by ensuring that the operations are done in consideration of human rights issues and to avoid negative outcomes observed in previous operations. This should include making changes in laws to incorporate wildlife conservation authorities in the military wing. For example, Operation Tokomeza which was initiated in 2013 with the aim of fighting poaching in Tanzania; although it was stopped due to human rights violations, was more effective than other previous efforts. The findings suggest that the Botswana military shoot to kill policy helped to increase the elephant population, the same policy can be utilized in Tanzania as well.

As observed in South Africa and Botswana, Tanzanian poachers are currently using military style weapons and their capability is high compared to those of game rangers and wardens, therefore a military solution may be a more effective means of ending poaching in the country. Poaching is a threat to national economy because it reduces government capacity to generate revenue.

The wildlife authority should also address the need to use modern technology on protection of elephants. The elephants should be tracked with GPS and monitor them in

24 hours a day to ensure their movement are monitored by game rangers. The surveillance of protected area by drones to monitor movement of poachers in National parks and game reserves should be prioritized.

Interim Mediation

In the meantime, there is an urgent and immediate need to truncate the increase in elephant poaching if elephants are to continue to exist in Tanzania. This calls for all actors, local and international to intervene. These interventions include political, economic, military, and informational awareness and active response and is not a single approach but rather a series of active counter measures.

At the local level, politicians have the responsibility to ensure that the administration and use of natural resources is viable and sustainable and that revenues are distributed across the society equitably. In addition, local politicians need to seek international assistance, and request the international Police (Interpol) to play an active role in severing the IWT market.

Economic intervention is a must. Incentives provided for the local communities help but are not enough. There is need for the establishment of local industries to provide permanent jobs. Financial security removes the need for illegal sale and poaching of wildlife, and while it will not eradicate the practice completely, it is anticipated that it will decrease dramatically. Overtime, it is anticipated that education campaign will shift cultural practices. In addition, there is need to call on the international community to actively participate in monitoring and eliminating the market that encourages illegal poaching. This calls for aggressive anti-poaching campaign both at home and abroad. All

efforts need to have a single theme which is to stop wild life poaching with the ultimate goal of ensuring the survival of wildlife animals in Tanzania.

The Tanzanian security forces have an immediate role to play. They are best equipped to intervene by conducting active patrols in vulnerable and poaching prone areas. Active security presence require operational planning and the commitment of the Tanzania's leaders to provide the legal and financial support necessary for its execution. This is perhaps the fastest 'Band-Aid' solution to arrest the immediate population decrease. This problem, however, needs to be approached with a long term vision and solution. The problem is compounded by multiple social challenges, and as such, requires multiple approaches and therefore requires the active participation across social and institutional spectrum, both domestic and international.

Areas for Further Research

More research should look at the best way to use military without undermining other security organs. The military should work hand in hand with the police, game rangers and NGOs that are involved in wildlife conservation. The complexity of poaching is that it is difficult to identify would be poachers and boundaries are porous and susceptible to organized crime groups.

There is a need to research on how TPDF can protect national economic security against non-state actors. The interstate wars have reduced due to globalization and democratization. The core military duties are to protect boundaries and state sovereignty, but the military can be used in anti-poaching programs. Poaching threats are caused by organized crime groups which need further research.

Additionally, further studies should be made to find out the effects of involving the local communities around the parks and game reserves in conserving wildlife. These studies will look at the economic, social and political impacts on those populations that are mandated to take part in wildlife conservation.

Summary of Chapter

The recommendations to this study provide viable solutions to the elephant poaching problem in Tanzania. Despite several initiatives to empower the civilian and paramilitary authorities in Tanzania to solve the poaching problem, elephants remain endangered species in the country. The poachers have now gained more superior weapons than the government authorities. This chapter concludes with a recommendation for the need for military intervention in anti-poaching efforts. The military has more resources and training to defeat the poachers and past experiences show military excellence in anti-poaching efforts. These same measures have worked well in South Africa and Botswana and can therefore work in Tanzania. Soldiers are disciplined and not easy to corrupt. Nevertheless, military intervention requires support from other authorities. The livelihood of the people living around the parks must be enhanced with alternative sources of survival to enable the military innovation succeed. The chapter substantiates that there should be a political will to amend laws to enable the military to be legally participate in anti-poaching efforts. More research is however needed to enhance the military efforts without affecting the population and smooth running of the system.

BIBLIOGRAPHY

All Africa. "Tanzania: Paramilitary Force to Check Poaching in Game Parks." May 05, 2018. Accessed November 13, 2017. http://allafrica.com/stories/201605060987.html.

Animal Club. "Elephant Poaching Map." Accessed December, 24, 2017. http://animalia-life.club/other/elephant-poaching-map.html.

Baldus, Rolf D. "Poaching in Africa: Facts, Causes and Solutions." African Indaba. Accessed March 27, 2018. http://www.africanindaba.com/2014/04/poaching-in-africa-facts-causes-and-solutions-april-2014-volume-12-3/.

Baxter, Pamela. "Qualitative Case Study Methodology: Study Design and Implementation for Novice Reseachers." Academic Research Paper, Nova Southeastern University, Ontario, Canada, January 2008.

BBC. "Tanzania Elephant Poachers Kill British Helicopter Pilot." January 31, 2016. Accessed November 13, 2017. http://www.bbc.com/news/uk-35450490.

Biggs, Duan, Rosie Cooney, Dilys Roe, Holly T. Dublin, James R. Allan, Dan W.S. Challender, and Diane Skinner. "Developing a Theory of Change for a Community-Based Response to Illegal Wildlife Trade." Wiley Online Library. Accessed August 18, 2017. http://onlinelibrary.wiley.com/doi/10.1111/cobi.12796/ pdf.

Cheteni, Priviledge. "An Analysis of Anti-Poaching Techniques in Africa: A Case of Rhino Poaching." *Journal Environmental Economics* 5, no. 3 (1 September 2014): 63-70.

Cim. "Tanzania Background Information." Accessed September 23, 2017. http://www.cim.org/en/CIMSubSites/CentreForExcellence/Country-profiles/Tanzania/Tanzania-background-info.

CITES. "CITES Secretariat Welcomes Adoption of United Nations Sustainable Development Goals with specific Targets to End Poaching and Trafficking of Wildlife." Accessed September 3, 2017. https://cites.org/eng/CITES_welcomes_UN_SDGs_with_target_to_end_poaching_trafficking_wildlife_25092015.

Cornell, Maraya. "Why Are Most of Tanzania's Elephants Disappearing?" *National Geographic*. June 15, 2015. Accessed September 06, 2017. https://news.nationalgeographic.com/2015/06/150612-tanzania-environmental-investigation-agency-mary-rice-elephants-poaching-cites-corruption/.

Cruise, Adam. "Can Killing More Elephants Actually Help to Serve Them?" *National Geographic*. July 8, 2015. Accessed January 14, 2018. https://news.nationalgeographic.com/2015/07/150708-trophy-hunting-poaching-elephants-lions-rhinos-africa/.

EBCD. "The Role of Communities in Tackling Illegal Wildlife Trade." June 22, 2015. Accessed March 27, 2018. http://ebcd.org/event/the-role-of-communities-in-tackling-illegal-wildlife-trade/.

Ecolex. "Wildlife Conservation and National Parks Act (Chapter 38:01) – Botswana." Accessed March 8, 2018. https://www.ecolex.org/details/legislation/wildlife-conservation-and-national-parks-act-chapter-3801-lex-faoc004728/.

Environmental Investigation Agency. "Vanishing Point – Criminality, Corruption and the Devastation of Tanzania's Elephants." November 6, 2014. Accessed January 16, 2018. https://eia-international.org/report/vanishing-point-criminality-corruption-and-the-devastation-of-tanzanias-elephants.

Esmond, Martin, Chryssee Martin, and Lucy Vigne. "Successful Reduction in Rhino Poaching in Nepa, Pachyderm, July – December 2013." Accessed September 27, 2017. http://www.rhinoresourcecenter.com/pdf_files/140/1400555558.pdf.

Gillies, Mark. "Operation Tokomeza." Tanzanian Affairs. Accessed April 21, 2018. https://www.tzaffairs.org/2014/05/operation-tokomeza/.

Global Security. "Tanzania." Accessed January 20, 2018. https://www.global security.org/military/world/tanzania/tpdf-history.htm.

Graduate Institute of International Studies. "In the Line of Fire: Elephant and Rhino Poaching in Africa." In *Small Arms Survey 2015: Weapons and the World,* 20-35. Cambridge: Cambridge University Press, 2015.

_____. *Small Arms Survey 2015: Weapons and the World.* Cambridge: Cambridge University Press, 2015. Accessed December 15, 2017. http://www.smallarmssurvey.org/fileadmin/docs/A-Yearbook/2015/eng/Small-Arms-Survey-2015-Highlights-EN.pdf.

Henk, Dan. *The Botswana Defense Forces in Struggle for an African Environment*. New York: Palgrave Macmillan Ltd. Publishers, 2007.

Institute of Development Studies. "National and Regional Legal Frameworks to Control the Illegal Wildlife Trade in Sub Saharan Africa." Accessed September 23, 2017. https://reliefweb.int/sites/reliefweb.int/files/resources/147-Enforcement-and-Regulation-IWT.pdf.

Kideghesho, Jafari R. "The Elephant Poaching Crisis in Tanzania: A Need to Reverse the Trend and the Way Forward." *Tropical Conservation Science* 9, no 1 (2016): 369-388.

Kimani, Eddy. "Do Ivory Sales Encourage Elephant Poaching? Or Just the Opposite?" Word Press. January 07, 2007. Accessed February 10, 2018. https://eddykimani.wordpress.com/2013/01/07/ek-do-ivory-sales-encourage-elephant-poaching-or-just-the-opposite/.

Ledger, Emma. "Botswana Praised for Dramatic Switch to Protect Elephants." *Independent.* October 7, 2016. Accessed March 8, 2018. https://www.Independent.co.uk/voices/campaigns/GiantsClub/botswana-praised-for-dramatic-switch-to-protect-elephants-a7349936.html.

Lemieux, Andrew M., ed. *Situational Prevention of Poaching.* New York: Routledge, 2014.

Leveille, David. "When you Buy Ivory, you may be Funding al-Shabaab terrorists." PRI's The World. Accessed February 20, 2018. https://www.pri.org/stories/2013-10-08/rangers.

Lewis, D. M., A. Mwenya, and G. B. Kaweche. "African Solutions to Wildlife Problems in Africa: Insights from a Community-Based Project in 1988." Food and Agriculture Organization of the United Nations, Accessed January 16, 2018. http://www.fao.org/3/t8850E/t8850e04.htm.

Licht, Daniel S., Rob Slotow, and Joshua Millspaugh. "Lessons from Park Management in South Africa." *Out of Africa* 25, no 1 (2008): 23.

Linhphung, Huynh. "Shoot-to-Kill Policy: Injustice in the Name of Conservation." University of Texas at Austin. January 19, 2015. Accessed September 27, 2017. https://sites.utexas.edu/wildlife/2015/01/19/shoot-to-kill-policy-injustice-in-the-name-of-conservation/.

LSE Expert Group. "After the Drug Wars: Report of the LSE Expert Group on the Economics of Drug Politics." Accessed January 16, 2018. http://www.hr-dp.org/files/ 2016/11/18/LSE_IDEAS_-After_the_Drug_Wars.pdf.

Lunstrum, Elizabeth. "Green Militarization: Anti-Poaching Efforts and the Spatial Contours of Kruger National Park." *Annals of the Association of American Geographers* 104, no 4 (2014): 4.

M&G Africa Reporter and *Xinhua*. "Tanzania Wants Tougher Mail and Guardians Africa Penalties Against Poachers, a Year After its Shoot-on-Sight Policy Ran into Trouble." November 9, 2014. Accessed January 16, 2018. http://mgafrica.com/article/2014-11-09-tanzania-seeks-tougher-penalties-against-poachers-a-year-after-its-shoot-on-sight-policy-run-into-trouble.

Maghembe, Abdallah J. "Budget Speech for the Financial Year 2017/018." Speech, Parliament of Tanzania, Dodoma, May 2017.

Masse, Francis, and Elizabeth Lunstrum. "Accumulation by Securitization: Commercial Poaching, Neoliberal Conservation, and the Creation of New Wildlife Frontiers." *Geoforum* 69 (2015): 233-236.

McKenzie, David, and Ingrid Formanek. "Our Living Dinosaurs: There are Far Fewer African Elephants than We Thought, Study Shows." *CNN*. August 31, 2016. Accessed November 20, 2017. https://www.cnn.com/2016/08/31/africa/great-elephant-census/index.html.

Merriam Webster Dictionary. "Anti-Poaching." Accessed August 14, 2017. https://www.merriam-webster.com/dictionary/anti-poaching.

Mihai, Andrei. "Journalist Uses GPS Trackers and Fake Elephant Tusks to Reveal Smuggling Route." Accessed October 2, 2017. http://www.zmescience.com/ecology/animals-ecology/elephant-tracking-tusk-ivory-17082015/.

Mwalimu Nyerere Foundation. "Mwalimu Julius Kambarage Nyerere – Biography." Accessed October 27, 2017. http://www.juliusnyerere.org/about/category/nyerere.

Nuwer, Rachel. "A Forgotten Step in Saving African Wildlife: Protecting the Rangers." *The New York Times*. November 28, 2016. Accessed August 14, 2017. https://www.nytimes.com/2016/11/28/science/a-forgotten-step-in-saving-african-wildlife-protecting-the-rangers.html.

OIPA International. "Stand for Elephants." Accessed May 13, 2018. http://www.oipa.org/international/stand-for-elephants/.

Owens, John. "Sport Hunting Revenue." The University of Texas. Accessed January 13, 2018. https://sites.utexas.edu/wildlife/2014/11/10/sport-hunting-revenue/.

Oxford Dictionaries. "Culling." Accessed December 20, 2017. https://en.oxforddictionaries.com/definition/culling.

Park Ranger. "What is a Park Ranger?" January 19, 2018. Accessed March 03, 2018. https://www.parkrangeredu.org/what-is-a-park-ranger/.

Peter, Tom A. "An Anti-Poaching Project Misfires in Tanzania." *AlJazeera*. September 2, 2015. Accessed September 20, 2017. http://america.aljazeera.com/articles/2015/9/2/anti-poaching-project-misfires-in-tanzania.html.

Phys. "Kenya Anti-Poaching Dogs Wildlife Friends." Accessed April 2018. https://phys.org/news/2018-02-kenya-anti-poaching-dogs-wildlife-friends.html.

Revolvy. "African Wildlife Defence Force." Accessed January 19, 2018. https://www.revolvy.com/topic/African%2 0Wildlife%20Defence%20Force.

Sanctuary of Mary. "Yang Feng Glan - Queen of Ivory - Arrested in Tanzania for Alleged Crimes." Accessed October 12, 2017. http://sanctuaryofmary.blogspot.com/2015/10/yang-feng-glan-queen-of-ivory-arrested.html.

Southern African Development Community. *SADC Law Enforcement and Anti-Poaching Strategy, 2015-2020*. Accessed January 29, 2018. http://www.gaboro-ne.diplo.de/contentblob/4715602/Daten/6225475/sadcleap final.pdf.

Tairo, Apolinary. "Poaching Threatens Africa Elephants and Tourism." eTN Tanzania. October 05, 2012. Accessed September 21, 2017. https://eturbonews.com/31557/poaching-threatens-africa-elephants-and-tourism.

Tanzania Ministry of Natural Resources and Tourism. "Wildlife Division." Accessed August 5, 2017. https//www.mnrt.go.tz/sectors/category/wildlife.

_____. "Wildlife Conservation Act, July 2013, Section 5." Accessed September 20, 2018. http://www.endangeredearth.com/wp-content/uploads/es_laws/Tanzania-Un.-Rep.-of-Wildlife-Act-2013.pdf.

Tanzania Wildlife Research Institute, "Mission," accessed December 30, 2017, http://tawiri.or.tz/.

TanzaniaInvest. "Tanzania Tourist Arrivals Increase by 12.9% in 2016 to Reach 1,28 M." Accessed October 12, 2017. https://www.tanza niainvest.com/tourism/tourist-arrivals-reach-2016.

Taylor, George. R. *Integrating Qualitative Methods in Research*. Lanham, MD: University Press of America, 2005.

Tremblay, Sophie. "Leading Elephant Conservationist Shot Dead in Tanzania." *The Guardian.* August 17, 2017. Accessed August 28, 2017. https://www.theguardian.com/environment/2017/aug/17/leading-elephant-conservationist-ivory-shot-dead-in-tanzania.

UNEP, CITES, IUCN, and TRAFFIC. "Elephants in the Dust: The African Elephant Crisis." Accessed August 22, 2017. https://cites.org/common/resources/pub/Elephants-in-the-dust.pdf.

US Fish and Wild Life Services. "Illegal Wildlife Trade." Accessed December 20, 2017. https://www.fws.gov/international/travel-and-trade/illegal-wildlife-trade.html.

Visser, Nick. "Wildlife Rangers Are Using Military-Grade Technology to Catch Poachers, and It's Working." *Huffington Post*. November 21, 2016. Accessed

January 4, 2018. https://www.huffingtonpost.com/entry/wwf-thermal-imaging-poachers.

Voss, Chris, Nikos Tsikriktsis, and Mark Frohlich. "Revisiting Case Research In Operations Management." Academic Research Paper, United Kingdom, 2002.

World Atlas. "Where is Tanzania?" Accessed August 21, 2017. http://www.worldatlas.com/af/tz/where-is-tanzania.html.

World Data Atlas. "United Republic of Tanzania - Contribution of travel and tourism to GDP as a Share of GDP." Accessed November 5, 2017. https://knoema.com/atlas/United-Republic-of-Tanzania/topics/Tourism/Travel-and-Tourism-Total-Contribu tion-to-GDP/Contribution-of-travel-and-tourism-to-GDP-percent-of-GDP.

Yin, Robert. *Case Study Research Design and Methods.* Newbury Park, CA: Sage Publication, 1989.

Zambia Tourism. "Game Rangers International: Who We Are, What We Do." Accessed March 20, 2018. http://www.zambiatourism.com/about-zambia/conservation/game-rangers-international.