SUSTAINABLE ENVIRONMENTAL CONSERVATION AND THE EFFECTIVENESS OF EMA POLICIES IN RESETTLEMENT AREARIS. THE CASE OF MATETSI WARD; HWANGE DISTRICT, MATABELELAND NORTH.

BY

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DATE

MAY 2018
APPROVAL FORM

Undersigned certify that they have read and recommended to the Bindura University of Science Education for acceptance as a dissertation entitled, “Sustainable environmental conservation and efficacy of EMA policies in resettlement areas. The case of Matetsi Ward, Hwange District, Matabeleland North”

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DECLARATION
Submitted in partial fulfilment of the requirements for the Master of Science Education Degree at Bindura University of Science Education, Zimbabwe.

I, Mpumelelo Ngwenya (B1129666) declare that

1. The research reported in this dissertation, except where otherwise indicated, is my original research.
2. The dissertation has not been submitted for any degree or examination at any other university.
3. The dissertation does not contain other persons’ data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
4. The dissertation does not contain other persons’ writing, unless specifically acknowledged as being sourced from other researchers. Where other written sources have been quoted then:
   a. Their words have been re-written but the general information attributed to them has been referenced.
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NGWENYA MPUMELELO

DATE..............................................................................
DEDICATION

This research is dedicated to my mother Sibonisiwe Ngwenya who passed on at the height of my preparations for this work in a road accident. May your soul rest in peace mother. I also dedicate this work to my lovely family especially my lovely children Siyabonga Ngwenya, Ukhona Ngwenya and Siza Ngwenya and their mother Sibusile Moyo who were so comforting even when I robbed them most of their time and hard earned resources.
ACKNOWLEDGEMENTS

The author would like to acknowledge the contributions of all those who made this research a success. Special mention go to my supervisor Mr. E. Siziba for his professional guidance and expertise. Mr. J. Sibanda, the former part-time lecturer at Zimbabwe Open University (ZOU) for his unwavering support as well as supplying me with relevant information and advice. The officers at the Ministry of Lands in Hwange District, the Provincial Natural Resources Officer at the Ministry of Environment and Tourism Matabeleland province and the Officers at EMA in Hwange district as well as the Matetsi Ward councillor and the local traditional leadership for giving the author permission to carry out the research. All the respondents who spared their time to respond to the questionnaires and interviews are, as well, given my special thanks.

May God bless you all!
The need for sustainable natural resources management is as old as the history itself. However, the modern ways of natural resources exploitation in some areas, on one hand, and the heavy dependence on natural resources due to poverty, on the other hand, has seen a number of environmental laws and law enforcing institutions established to intensify and achieve the concept of sustainability. This work, therefore, assessed the effectiveness of the Environmental Management Agency (EMA) in implementing sustainable environmental policies in the resettlement areas, specifically in Matetsi Ward. A self-completed pre-coded questionnaire was used to solicit for the information ranging from the social characteristics of the respondents to the questions probing on the effectiveness of EMA in the implementation of the environmental policies in the ward. A total number of 100 respondents were randomly sampled from 6 villages out of 10 villages (60%) in the ward. The research findings were that, EMA is seriously incapacitated to be fully felt in the ward as there are no clear mechanisms in place to implement and monitor its conservation policies. It was noted that the “people are ignorant” of specific EMA policies as farmers do not fully appreciate on how to handle their environment. The “my land” political mind-set of the resettled farmers who most of them are war veterans outweigh EMA policies on conservation. Finally, the need for “quick money” was established as a major cause of unmitigated utilisation of the natural resources by the unemployed youths in the area and from the surrounding places. This research then recommended that, EMA should carry periodic conservation and educational campaigns on the best ecological practices. EMA should have its “own security” systems in the area to monitor, arrest and get offenders prosecuted. There is need as well to capacitate the youths for self-help projects so that the environment is relieved of pressure from the unemployed youths.
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ACRONYMS

CAMPFIRE- Communal Area Management Programme for Indigenous Resources
CBNRM- Community Based Natural Resources Management
EMA- Environmental Management Agency
IKS- Indigenous Knowledge Systems
WCS- World Conservation Strategy
CHAPTER 1- INTRODUCTION TO THE STUDY

1.1 Introduction
This chapter provides a background, purpose and the scope of this research. It outlines reasons that underpin the need for a research to be carried out and state the problem statement. The chapter has the general and specific objectives of the research stated as well as research questions. A justification for the study is provided and the terms are defined in this chapter. Finally the chapter gives an overview of the organisation of the study, and a summary of the chapter at the end is given.

1.2 Background of the study
The world today is grappling with environmental degradation challenges, chief among them is the sceptre of climatic change in the form of global warming. At the global scale sustainable environmental conservation involves managing the oceans, freshwater systems land and atmosphere as enshrined in the SDGs (Robert et al, 2016). A number of pacts have been agreed and signed among the global blocs to try and fight environmental degradation, such as the Kyoto Protocol and the Earth Summit to name but a few. The world suffers from the socio-political and economic challenges in achieving the environmental development goals with the recent example being the expiry of the Millennium Development Goals in 2015 having achieved almost nothing in environmental development especially in the developing world since 2000 (UN Economic Commission For Africa, 2015). The Southern Africa as a region faces grave challenges on the environment characterised by extensive loss of forests and related environmental impacts, deteriorating biodiversity and quality of the ecosystems as a result of climatic factors, and narrowly focused economic and sectoral policies that do not prioritize environmental conservation. More so, Zimbabwe as a country is currently suffering from a myriad of environmental conservation problems, in addition to destabilising economic and political entanglements. As a result, environmental sustainability has become too difficult a practice to implement in the country (Mawere, 2013).

In Zimbabwe, the environmental legislation can be viewed from a historical perspective. Three phases that can characterize the history of Zimbabwe are noted by (Mukwindidza, 2008), these are the pre-colonial phase, the colonial phase and the post-colonial phase. The three phases have experienced different social, economic and political settings in the country and thus each phase had different perspectives on the country’s environmental policy from the other as put
by the Environmental Justice in Zimbabwe (2004) that the effectiveness of methods used to implement environmental legislation largely depends on the political will of the regime in power and the resources at the regime’s disposal. The following is a brief discussion about the three phases.

The first one is the pre-colonial phase, the period before 1890, in which the Environmental Justice in Zimbabwe (2004) note that the environmental legislation was not gazetted as the methods employed to conserve natural resources vested in the various traditional leaders like chiefs and headmen. The chiefs and headmen were the ones who would sanction for the appropriate methods to utilize the natural resources in accordance with traditional values. Those who violated the traditional beliefs, customs and taboos in relation to environmental conservation would be fined either by paying a goat, a herd of cattle or both (Mukwindidza, 2008). Those who committed serious offenses like putting drugs into dams in order to catch fish or those who cut down trees in sacred places risked being banished from the area. Such practices helped the people of the precolonial phase to be steadfast with their consciences and as such they preserved their natural resources (Mukwindidza, 2008).

However, the Resource Africa (2002) assert that the colonial phase, from 1890 to 1980, brought new environmental legislation by eliminating the traditional beliefs’ systems, for example, the sacred places like the Nyanga Mountains and the Chinhoyi caves were used as game parks or tourist resort centres initially used as places for traditional rituals like rain making ceremonies. In addition, Chiwandamira and Mbengo (1999) note that the new environmental legislation was set to meet the values and policies of the colonial masters. Chiwandamira and Mbengo (1999) further note that the black indigenous population was ignorant of the newly gazetted environmental laws and also how the laws were to be implemented and thus most of the black indigenous people were removed to live in the then “tribal trust lands”, now referred to as communal areas, the unsuitable and dry areas of the country, like Gokwe, in order to create natural parks, game reserves and European commercial areas all for the enjoyment and benefit of the white elite and international tourists.

The Environmental Justice in Zimbabwe (2004) postulate that the methods used to effect environmental laws were not viewed favourably by the black population who felt robbed of their cultural and religious heritage and had also been pushed to the periphery of the colonial regime’s political, economic and social activities. Thus the black population resorted to indiscriminate cutting down of the natural forests and uncontrolled ploughing of the land for
survival as revealed by Mukwindidza (2008). This was because they were overcrowded in the unproductive tribal trust lands. Environmental damage increased wherever they went (Mukwindidza, 2008).

The last one is the post-colonial phase, from 1980 to date. Chiwandamira and Mbengo (1999) assert that this phase saw a realignment of the environmental legislation to suit the new socio-economic and political environment of the country. According to the Environmental Justice in Zimbabwe (2004), the period from 1980 to 2002 had environmental acts seen in various government departments and ministries, for example, the now repealed Natural Resources Act, 9 of 1996 was under the Ministry of Mines, Environment and Tourism while the now repealed Atmospheric Pollution Prevention Act, 31 of 1996 was under the Ministry of Health and Child Welfare and the Fertiliser, Farm Feeds and Remedies Act, 27 of 1996 was under the Ministry of Lands and Agriculture (Environmental Justice in Zimbabwe, 2004). Thus the methods used to implement the environmental legislation by different government ministries were uncoordinated and lacked uniformity.

It was in 2002, as noted by Reed (2008) that consolidated environmental legislation was put in place. The Environment Management Act, 13 of 2002 (EMA) was the first of its kind in Zimbabwe. It was passed into law in March 2003 and is governed and effected under the Ministry of Environment and Tourism. In 1992, after the Earth Summit in Rio de Janeiro in Brazil, the government of Zimbabwe, through the Ministry of Environment and Tourism, initiated a process of environmental law reforms in the country (Reed, 2008). It was a long process which culminated in the passage of the consolidated EMA after another Earth Summit which was held in Johannesburg, Republic of South Africa, in August 2002 (Reed, 2008). Mukwindidza (2008) explains that the reforms were aimed at coming up with laws that are more useful in protecting the environment, while at the same time allowing people to use it to meet their present development needs and also the needs of the future generations, Thus EMA in other words seeks to set environmental standards in an integrated way and it is focused at sustainable utilization of natural resources

The Department of Natural Resources, Zimbabwe (2005) observe that the Ministry of the Environment and Tourism had put in place methods through which it would manage the environment and implement environmental laws by promoting sustainable environment and natural resources management through environmental monitoring, environmental education, research, environmental planning and enforcement of environmental laws. The methods to
implement environmental legislation thus based on the need to monitor sustainable utilization of the environment, to educate the population about environmental issues, to carry out research on how best to utilize the environment with optimum benefits and minimum damage for the sake of current and future generations, to plan the correct use of the environment; and to improve environmental laws (The Department of Natural Resources, Zimbabwe, 2005).

Now that the consolidated EMA is in place and that methods of implementing environmental legislation have been highlighted above, all operating in a new social, economic and political setting, this research seeks to assess the organisation’s effectiveness in the implementation of its environmental policies in Zimbabwe with specific reference to the Resettlement areas, the case of Matetsi ward.

1.3 Problem statement
Natural resources provide a life support system for people and animals the world over. It is true that sustainable utilization of the natural resources would not only benefit the present generation but also the future generations. Comprehensive and consolidated environmental management policies is a prerequisite for most countries, Zimbabwe included. These policies will ensure that there is environmental justice in controlling activities that degrade the environment and to enhance the prosecution of offenders of the environmental laws.

Mukwindidza (2008) note that Zimbabwe now has a consolidated environmental legislation which is EMA. Thus this being a positive development towards environmental justice in the country. The Environmental Justice in Zimbabwe (2004) states Section 4 (2) of the EMA’s eight general principles which apply to the activities of all persons and all government agencies involved in environmental management as:

- All elements of the environment are linked and environmental management must be integrated.
- People and their needs should be put at the forefront of environmental management.
- All people should participate in environmental governance.
- Communities must be made aware of environmental aspects through environmental education.
- Development must be socially, environmentally and economically sustainable.
• Negative effects on the environment and people’s rights that are anticipated should be prevented and where it is not possible to prevent the negative impacts, they should be minimized and remedied.

• Any person who cause pollution or environmental degradation shall meet the cost of correcting such environmental pollution or degradation; and

• National interests should be followed in complying with international treaties, standards and other responsibilities.

Thus the above principles therefore complement the strategies of implementing environmental policies. Chiwandamira and Mbengo (1999) had argued that the existing environmental law system in Zimbabwe is largely one of “command and control” where laws are used to control certain activities. This then confirms that laws can be used to effectively command and control systems of certain activities like starting of veld fires, poaching and indiscriminate cutting down of the natural forests. It is paramount to emphasise that the methods used to implement environmental laws and policies to control certain activities must be effective.

Thus in view of the above observations, this research will therefore seek to assess the effectiveness of EMA in its implementation of environmental policies in the Matetsi Ward as there are a number of disturbing environmental occurrences going unpunished and unnoticed in the area. There is increase in Elephant poaching in Hwange within the Matetsi Area, there has been a massacre of Jumbos in 2014 and 2017 and more than 20 elephants succumbed to cyanide poisoning at the hands of poachers in each case (primary source).

Various other animals are ensnared randomly in this rich wild life ward of Matetsi. The animals that were seen roaming the wild by many tourists are becoming scarcer in recent years. The forest areas such as Fuller Forest housed in Matetsi Ward is also increasingly being cut down as local communities harvest timber and wood for various reasons. The ecology of Matetsi ward is deteriorating rapidly and as worsened by seasonal veld fires.

This study is critical therefore to identifying the gaps in conservation efforts by the different players in the area. Ideally the resettled farmers should be the champions of conservation themselves. The situation is that some of them are directly involved in environmental degradation. The study also seeks to examine if this is due to intrinsic or extrinsic factors in the community of resettled farmers, of a propensity to utilise the environment indiscriminately.
1.4 General aims/objectives.

1.4.1 Research aims
The research seeks to:

Assess the effectiveness of EMA’s environmental policies.

1.4.2 Research Objectives
To identify the major causes of environmental degradation in Matetsi Ward

To assess the awareness of the Matetsi Community on the nature of their environment.

To evaluate the resettled farmers’ conception of conservation.

To examine the efficacy of the EMA’s conservation policies in Matetsi Ward.

1.4.3 Research Questions
i. What are the main drivers of environmental degradation in Matetsi Ward?
ii. Are the resettled farmers aware of the nature of their new environment?
iii. What are the resettled farmers’ preconceived views on conservation in Matetsi Ward?
iv. How effective are EMA’s policies on environmental conservation in Matetsi Ward?

1.5 Justification of the study.
While the EMA is the first consolidated environmental watchdog in Zimbabwe, there is need to establish factors that can lead to non-compliance to environmental conservation policies, which according to Shava (2003) may include ineffective methods used to implement the policies, lack of environmental expertise and lack of knowledge of either the policies or the requirements of the policies.

The levels of unsustainable utilisation of limited natural resources in the ward might be an indicator perhaps of some intrinsic factors rather than extrinsic which the earlier, EMA in its policy formulation and implementation might had overlooked. There is, therefore, a need to institute effective methods when implementing environmental conservation policies from an informed understanding of the nature of people’s understanding of their environment lest we fail as a nation to conserve the environment.

The assumption in this research is that the enforcement of the environmental conservation policies in Matetsi Ward is not effective and the ignorance of conservation policies has witnessed an increase in unsustainable utilization of natural resources in the ward and thus it becomes a major cause for concern which requires an analytical approach to solve.
Once this research is done, it is a researcher’s expectation that it will contribute in the decision making on environmental issues, borrowing from the outcomes of the study, it is believed that the government, local authorities, stakeholders and the communities will be informed of sound decision making on issues to do with the environment. Also the local communities will appreciate the need for sustainable environmental practices, as the study will bring an insight to the communities mainly on the environmental malpractices and their effects so that people will value and appreciate the need for environmental sustainability practices.

This research is expected to have a future bearing on resource allocation to most affected areas, environmental organisations and the NGOs will be guided by the study by mapping the most vulnerable and affected areas in the ward for resource allocation may the need arise. Also it will contribute to the academic body of knowledge, as the study is believed to add and fill the knowledge gaps on the environmental sustainability issues especially in resettlement areas for use in academics at all levels, be it in primary, secondary and tertiary education. Finally, the research will streamline the need to balance the best land utilisation for a particular environment with the best psyched people for that environment, so as to attain sustainable environmental conservation.

1.6 Definition of terms.

Environment
The aggregate of surrounding things, conditions or influences (Fuggle and Rabie 1998).

Environmental policy
A guide of action or statement of goals that should be followed to ensure that environmental issues or problems are addressed timeously (Fox and Meyer 1995).

Natural resources
Products and features of the earth that permit it to support life and satisfy people’s needs, such features as air, vegetation, minerals and soil (Miller 1996).

Policy
A statement of goals and intentions with respect to a particular problem or goals and objectives within a given situation and the methods to realize them (Fox and Meyer 1995).

Post-colonial phase
The period after the colonial phase, that is the period from 1980, when Zimbabwe became independent, to date (Nziramasanga 1999).

**Pre-colonial phase**

The period before the colonisation of Zimbabwe, that is the period before 1890 (Nziramasanga 1999).

**Resettlement**

The permanent transfer of people or families from an old settlement area to a new one. (Chiwandamira and Mbengo 1999).

**Sustainable development**

Un-destructive use of natural resources for the purpose of improving human life for the sake of the present and future generations (Miller 1996).

**Sustainable environmental conservation**

The ability to exploit the natural resources in a manner that it meets the needs of the present without compromising the ability of future generations to meet their own needs (Robert *et al*, 2016).

Mawere (2013) aptly speaks of environment as, an explicit, active concern with the relationship between human groups and their respective cultural and biophysical elements. The interplay between the three words: sustainable, environmental and conservation, then together build the concept of how we can best use, now and for the future, our biophysical and cultural world.

1.7 **Organisation of the study**

The following is an overview of the various chapters.

**Chapter 1**

This chapter provides a general introduction to the entire research. It includes background information to the study, statement of the problem, the scope of the research, general objectives, research objectives, and justification of the study, research questions as well as the organisation of the study.

**Chapter 2**
In chapter two an extensive review of literature relevant to the research topic is presented. A knowledge gap is as well identified and examined. The chapter finally explains the theoretical conceptualisation that which is a blue print for the research.

**Chapter 3**

Chapter three gives an overview of the research design, the population sample will be highlighted as well as describing the instruments used for data collection, data processing and data analysis.

**Chapter 4**

Chapter 4 is a result section where presentation of the findings of the research will be presented and interpreted. Tables will be used to record the findings and the findings will be expressed as percentages.

**Chapter 5**

In chapter five a summary of the entire study is provided. Conclusion and recommendations are made as well.

1.8 Conclusion

This chapter has presented some fundamental information that gives a direction the study takes. Thus this chapter gives a solid foundation to the entire study. The research aim, questions and the objectives presented in this chapter set the limits to the study and serve as the guidelines for the chapters to follow. It makes it clear that the research focuses mainly on the effectiveness of EMA in the implementation of environmental conservation policies. The next chapter is going to look at the literature review.
2.0 CHAPTER 2- LITERATURE REVIEW

2.1 Introduction
This chapter discusses the literature review as a theoretical framework of the study. An analysis of environmental and conservation issues is going to be covered here in detail from the global, regional and to the national levels. Conservation frameworks in Zimbabwe will be discussed, all in a manner that leads to the exposition of the knowledge gap that this research seeks to address.

2.2 Theoretical framework
The study is inspired by scholarly luminaries who have contributed immensely to sustainable environmental conservation globally and especially on the African continent. This study endeavoured to analyse the conservation approaches they proffer, their methodologies and experiences in various geographic and cultural settings. I list below some scholars I found most valuable to my study.

Studies have shown that it is very difficult for effective environmental awareness campaigns among the most vulnerable communities in developing countries because the vulnerable citizens in the communities entirely depend on the environmental facets for survival, however, environmental conservation can be somewhat achieved through an intensified participatory environmental awareness (Bandara, 1989). I use this as a tool to measure if similar educational framework are practiced in the vulnerable community of Matetsi Ward, in this case by EMA.

More so, Chigwenya and Manatsa (2007) argue that sustainable environmental conservation has long been not addressed basing on the traditional environmental perceptions of the concerned communities. This therefore, explains why there is constant clashes between the policy implementers and the resource exploiters. Thus this insightful chronology of the history of natural resource conservation and utilisation in Zimbabwe from the colonial times to the turn of the century found in this work very informing on how conservation has been handled in the different epochs in Zimbabwe and as well helped me project the best way to handle conservation challenges in the present and near future. Mawere (2013) substantiated this Chigwenya and Manatsa’s argument asserting that progressive sustainable environmental conservation policies should be a blend of Western conservation philosophies and the traditional African Indigenous Knowledge Systems or else we witness a clash between the two models in conservation, hence the failure to achieve conservation (Ibid).
However, Dambuzo (2014) is asserting that sustainable environmental conservation can only be achieved when it is taught in three levels that is; formal, non-formal and at tertiary level for people to have an in-depth appreciation of the need to coexist with the environment in harmony and in a productive manner. Argument is that environmental policy makers and implementers are constantly fighting losing battles by trying to control the utilisation of the environment rather than teaching how to utilise the environment. This approach caught my attention in that it tackles developmental and by extension conservation issues in Zimbabwe, and also helps me to evaluate the level of sustainable environmental management literacy among the resettled farmers in Matetsi Ward. This academic approach by Dambuzo had the blessing of Mukoni (2013), who felt that the environmental teachings in Zimbabwean schools is just the greening of the curriculum with no transformative ideology, a factor which is fundamental because the after school life involves the interaction with the environment, thus environmental teachings should be such that its impact is positively felt on the environment.

The researches on the effectiveness of the implementation of environmental conservation policies in SADC countries concluded that there was poor information dissemination by the conservation agents as most people in marginalised areas would be hardly visited by environmental officers due to poor transport networks and incapacitation on the side of the agents. Thus radio is believed to be better used as a means to disseminated information to the target communities (Jin, 1995). This will therefore establish, as now there is a community Radio Station in a 60 km radius around Victoria Falls called Breeze FM, how it can be involved in environmental education not only to disseminate information but provide a for a where the communities discuss and debate about environmental issues as a means to reduce environmental degradation.

In addition, Nkosi (2002), states that the researches in Shiselweni Region of Swaziland on biological biodiversity conservation discovered that there was little ecological knowledge in the people of the region and that was the reason behind the human destruction of the biodiversity in there. I believe this is ground breaking discovery on the causes of environmental depletion by the communities, which is lack of knowledge that can be a cause of poor information dissemination, critical in my study of conservation in Matetsi Ward.

Interesting is the evaluation by Mapedza and Mandondo (2002) that unless the conservation programmes in an area are directly benefiting the local communities, achieving sustainable environmental conservation will never be practical. Thus the researcher is helped to get the
information on whether the community in the Matetsi Area is directly benefiting from the conservation programmes or not and such need to be rectified so as to achieve a much need sustainable environmental conservation.

2.3 Global overview of environmental conservation issues
Admittedly our world today is grappling with environmental degradation challenges, chief among them is the sceptre of climatic change in the form of global warming. This has seen some areas experiencing abnormal dry spells (as is the case in Southern Africa currently) while in others (such as in some Asian countries) there has been devastating floods. Sea levels are on the rise as the ice melts, due to increase in global temperatures. Some animals, such as the Black Rhino in Africa and plant species, such as Tropical Rain Forests and hard hoods are threatened with extinction and depletion respectively (Robert et al, 2016 and Taringa, 2006).

Air pollution is more rampant in emerging and most developed economies such as China and the United States respectively. In China most of their cities are blanketed in permanent ‘fog’ due to industrial emissions. The air is no longer healthy to breath and face masks are a common feature in most cities there. Canada in North America, is mostly affected by acid rain due to carbon dioxide emitted from United States industries. The carbon dioxide from these industries reacts with rain water creating some acid rain which wreaks havoc on both the natural and human environment of Canada (Reed, 2008).

Aquatic life is dwindling in some fresh water bodies due to toxic affluent flowing into their systems from many industries. Mining has not spared the land either leaving huge holes in and on the earth and creating unsavoury dump sites on the land, the world over. These adverse environmental conditions are a direct result of human action upon the environment. It becomes vital that humanity monitors its interaction with its natural environment very closely, with a view of conserving it for continued life on earth (Robert et al, 2016; Reed, 2008 and Taringa, 2006).

Efforts have been made by the world organisations to combat environmental degradation. The United Nations, had set goals in the Millennium Development Goals (MDGs) (Reed, 2008), in its endeavour to conserve the natural environment, however these have since expired in 2015. The 2015 UN Sustainable Development Goals (SDGs) took to challenge its members by its Goal 15: Life on Land calling for states to protect, restore and promote use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss (UN Economic Commission for Africa, 2016). However,
the rate at which the natural environment is unsustainable used seems to be more alarming regardless the efforts made, this is especially in the developing countries. It is therefore, a matter of concern to establish whether are there mechanisms that are put in place to supervise and monitor the utilisation of the natural resources to curb environmental degradation and if so how effective are such mechanisms as well as the need to establish the forces working against such mechanisms

2.4 Regional environmental issues (Southern Africa).

Environmental problems loom large in Southern Africa’s development. It appears that the sub region has progressed at no small cost to the environment in general and to its forests in particular. Forest loss has been 7.4 per cent per year, only slightly better than the 10.4 per cent rate for sub-Saharan Africa as a whole. The situation is all the more worrying when compared with South Asia, which has a higher population but has outpaced Southern Africa on human development and still recorded a forest gain of 2.8 per cent. Southern Africa’s development has taken a toll on the environment and urgent remedies are needed to reverse forest loss and create resilience towards climate change, at the same time ensuring infrastructure development to provide access to energy (UN Economic Commission for Africa, 2016).

Forest loss is neither comprehensive nor the only measure of environmental challenges. Other important indicators include emissions of carbon dioxide and greenhouse gases and measures of bio-diversity, natural-resource depletion, usage of fossil fuels and renewable energy, and sources of clean water. A key challenge is that data on environmental indicators are not available for all countries. The loss of forest cover leads to many other negative environmental conditions, including soil and fertility losses, land degradation, water pollution and loss of natural habitat for animal species. The loss of forest cover reflects a very broad problem at policy level: economic, agricultural, energy, industrial and other sectoral policies have failed to take into full account their adverse impacts on the environment and on the natural-resource base needed for future development (Robert et al, 2016 and the UN Economic Commission for Africa, 2016).

Land degradation in the sub region is caused by overcrowding, poor land-management, overgrazing and soil erosion. Poor land-management has a direct impact on food security, including fisheries production. The sub-region is said to have very high potential for fishing and considerable potential for developing aquaculture. Inland and marine fisheries make a major contribution to the economies of main coastal and island SADC member States. However, fish production is being undermined by a range of factors such as overfishing,
environmental degradation and weak management systems (Robert et al, 2016 and the UN Economic Commission for Africa, 2016).

Climate change is a central concern and a cause of poverty. It is a growing threat to any sustainable future for the sub-region. The extent and diversity of the climate-change threat to southern African livelihoods is becoming increasingly more apparent. Various global climate models predict increased warming and greater rainfall variability in the sub-region. The effects of changing temperatures and precipitation patterns will be felt in various sectors, including agriculture, forests, biodiversity and ecosystems, coasts, human settlements, water resources, and human health. In this respect, climate change is largely considered a cross-cutting issue. Evidence shows, however, that the extent of the impacts will vary between countries (Robert et al, 2016 and the UN Economic Commission for Africa, 2016).

It is therefore of concern to really go down to the basics of nature and existence of life to try and have specific reasons why Southern Africa is so much inefficient to conserve her environment regardless of so much revered literature produced about the region and the divergence of so many development partners in sustainable environmental conservation.

2.5 Regional conservation issues

Long before modernisation, traditional societies in Africa practiced environmental conservation, using different mechanisms at their disposal. These mechanisms, as Taringa (2004) observes are a complex set of knowledge and technologies existing and developed around specific conditions of populations and communities indigenous to a particular geographic area. Conservation strategies and practices, therefore, in African societies had some variations or uniqueness from one community and place to another. It is not in the scope of this paper to give reasons why it was so. However, it is sufficient to state that each practice was dictated by needs and conditions at hand for that community (Resource Africa, 2002).

The earliest African communities’ life style was in perfect harmony with the environment. The small hunting communities for example ensured that game is not destroyed in large quantities but only in manageable numbers, to feed a sizable group at a given time. This gave room for the animals to replenish themselves (Resource Africa, 2002).

It is surprising that the ancient society practiced nomadic pastoralism and shifting cultivation so as not put pressure on one piece of land for both tillage and grazing purposes. Such kind of land use was adapted to sustainably use the resources at hand. Once the land could not produce enough for both people and livestock new lands were found. The ‘abandoned’ land would be
left to also rejuvenate itself as new foliage would grow on that land again, renewing it once again. This ensured that future generations can also use the same piece of land for similar purposes as though it was not used before (Resource Africa, 2002).

Taringa (2004) stresses that trees were also conserved in that only dry dead wood was used for firewood and asserts that farming systems were adapted to the changing environment. The African communities, thus therefore, were very conscious of any strain their actions were causing on the environment and moved on to new areas were the land would support them for a specific period.

The earliest African communities conserved their trees, animals and land sustainably by adapting their lifestyle to the dictates of their environment. Trees also could not be wantonly destroyed as they provided most medicines, shelter, raw materials and food for them. Water and air pollution, on the other hand, were not a huge factor then, as these are challenges confronted more by contemporary societies since the onset of industrialisation. Other forms of environmental degradation arise from the growth of capitalism and consumerism, which this paper is not focusing on (Resource Africa, 2002).

However, the contemporary Southern Africa faces grave challenges on the environment characterised by extensive loss of forests and related environmental impacts, deteriorating biodiversity and quality of the ecosystems as a result of climatic factors, and narrowly focused economic and sectoral policies that do not prioritize environmental conservation. Biological diversity has been a defining feature of Southern Africa’s history, culture and economic and social organization (UN Economic Commission for Africa, 2015). That said, however, the UN Economic Commission for Africa (2015) argues that the corporate greed combined with high population growth and policy failures in Southern Africa have significantly altered traditional forest-management practices and the rural social and economic fabric. As a result, forest reserves are much endangered in the sub-region. Dependence on natural resources is relatively high, against the backdrop of pervasive poverty and low technological and institutional response, hence the failure of most attempts undertaken to address unsustainable utilisation of the natural environment.

The agriculture sector is sensitive to climate change and variability. These, combined with poor soil fertility, pests, crop diseases and lack of access to technology, markets and infrastructure, have a huge impact on Southern Africa’s livelihood base (UN Economic Commission for Africa, 2015). Seasons of good rainfall are associated with plenty, while dry seasons are
associated with adversity, deprivation, frustration, famine and possible displacement. As a result of climate change, severe drought and dry spells, flooding, changes in rainfall patterns, increasing temperatures and other changes are increasingly frequent. The need to survive in the poor economies but rich natural resources therefore finds a constant antagonism between the communities and the conservation organisation. It is however, critical to understand the rationale behind people’s failure to adhere to environmental policies or the failure of the policies to have an impact in peoples’ lives in general.

2.6 The national environmental issues (Zimbabwe)
The discourse on “environmental conservation” is highly dynamic and has generated controversies of epic proportions in conservation sciences and environmental anthropology. Given the nebulous nature of conservation, coupled with the varying interpretations evoked by the deployment of the concept across different disciplines, a more robust understanding of the notion calls into question its practical manifestations and application in particular situated contexts – particularly within the conservation sciences and environmental anthropology. In Zimbabwe, conservation by the state has tended to favour and privilege Western scientific models at the expense of the “indigenous” conservation practices of local people, as informed by their indigenous epistemologies (Mawere, 2013).

Zimbabwe is currently suffering from a myriad of environmental conservation problems, in addition to destabilising economic and political entanglements. As a result, environmental sustainability has become too difficult a practice to implement in the country. The Nigerian Institute of Social and Economic Research (NISER) (2009) asserts that sustainable development can be conceptually understood as having three constituent but overlapping parts: environmental, economic and social-political. Several United Nations texts (the 2005 World Summit Outcome Document in particular) refer to economic, social and environmental protection as the “interdependent and mutually reinforcing pillars” of sustainable development. Yet balancing the conservation of nature’s resources with the needs for development has always been problematic in southern Africa, particularly in Zimbabwe. This has been due to the compound effect of different factors, such as the unfair distribution of resources, an obsession with scientism, the disregard of indigenous epistemologies, population increase, low education levels and abject poverty (Mawere 2013). These issues have collectively precipitated the conservation debate in Zimbabwe.
2.7 Conservation frameworks in Zimbabwe.

There was no immediate complete departure from the conservation regime of the new government after 1980, from the colonial one, but only made ‘minimum changes despite the divergent ideological differences’ (Chigwenya and Manatsa 2007). This was true till end of the twentieth century. The change saw a new trend adopted, influenced by the Kyoto protocol Agenda 21 that emphasises the critical involvement of local communities and civic societies in the management of local environment (Haris and Makiko, 2002). This is summed in the acronym CBNRM (Community Based Natural Resources Management). This has seen the rise of initiatives such as the CAMPFIRE programme. This is, writes Murphree (1991) in Chigwenya and Manatsa (2007), a culmination of 1998 amendment of the National Parks and Wildlife Act of 1975 where the minister was empowered to give rural district councils appropriate authority over wildlife in their areas of jurisdiction. The programme was well celebrated across the globe and was emulated in some parts of the continent. None the less it has not solved the sustainable environmental conservation in Zimbabwe. The major blow of the CAMPFIRE project is that it is also extrinsic than intrinsic to the local communities. The programme is run at local authority level and perceived benefits prescribed for the people by the local authority ((Mapedza and Mandondo 2002). Due to some CAMPFIRE challenges the government continued to make further conservation moves, as indicated below.

Strides made in enhancing conservation practices by the new government. This saw the formulation of various environmental policies and amendments to previous ones, for example the Ministry of Environment and Tourism was established says Mukwindidza (2008). These developments continued, he further states, through the formation of legislation such as the Forest Act, 12 of 1984, the Natural Resources Act, 9 of 1996 and the Environmental Management Act, 13 of 2002 (EMA), a consolidated environmental legislative measure which is meant to be an inclusive and the overall environmental legislation in Zimbabwe. EMA was established for, among other things: develop guidelines for the preparation of the national plan, environmental management plans and local environmental action plans, to regulate and monitor the collection, disposal, treatment and recycling of water, t monitor and regulate discharge or emission of pollutions or hazardous substances into the environment, to make by-laws within the jurisdiction of local authorities, to advice government on conventions and treaties which should be incorporated into national law; and to regulate, monitor, review and approve environmental impact assessments (Summary of the Environmental Management Act, 13 November 2002:15-16). EMA effectively repealed some previous conservation Acts

In this case therefore, EMA is the most effective means by which conservation issues are handled in Zimbabwe currently. Of particular interest to this paper is the role of EMA in the formulation of local environmental action plans and the making of bylaws within the jurisdiction of local authorities. This means that EMA must be immensely involved in all conservation issues at local and national level, a daunting task that requires equally immense human, material and financial resources at its disposal. On the other hand however EMA’s role in conservation seems to be both prescriptive and proscriptive. Prescriptive in the sense that it is the one shouldering the responsibility of conservation action plans even at grassroots level than getting input from there and implementing it accordingly. It is proscriptive in the sense that it regulates environmental conservation by way of crafting bylaws in local authorities. This study will critically look at how EMA manages to live up to these expectations, especially in Matetsi Area. The local community’s relationship and view of EMA will also be examined.

On the side-lines of EMA there are other Non-Governmental Organisations (NGOs) such as Environment Africa and some donors who help in conservation issues in Zimbabwe. In Hwange National Park within the Matetsi area, there was formed in 2016 a Conservation and Wildlife Fund (CWF), specifically to take action against poaching of Africa's iconic species – lion, elephant and rhino, according to The Safari Source. Environment Africa mainly educates local communities on environmental degradation and offers mitigation support to these communities. The CWF on the other hand confronts the poaching scourge in the Matetsi area of the prized tourist attraction species, the lion, and elephant and rhino. While the former is more philanthropic the latter is more for personal survival of the concerned CWF contributors, the Lodges in Hwange region.

The existence of these other conservation bodies apart from EMA, points to the fact that there is a lot that needs be done to effectively manage environmental conservation in Matetsi.

2.8 Knowledge gap
This researcher, intends to give an evaluation of Environmental Management Agency in its implementation of sustainable conservation policies in the resettlement communal areas like the Matetsi Resettlement area, as no researches have been conducted in Matetsi resettlement
area yet EMA is such a prominent environmental watchdog in Zimbabwe and in the area of study as well. There is need therefore, to bridge this polarised gap.

2.9 CONCLUSION
This chapter looked at the reviewed literature, outlined the knowledge gap, and examined the overview of the environmental conservation issues from the global stand point to the Southern African and then Zimbabwean. The national conservation frameworks were discussed as well as the knowledge gap that this researcher seeks to bridge. The next chapter will discuss on the research methodologies, materials to be used for data collection, data processing and data analysis strategies.
3.0 CHAPTER 3 - METHODS, MATERIALS AND DATA

3.1 Introduction
This chapter gives an overview of the study in terms of the approaches used to get the best and reliable results from the study. It spells out the research design used, the methods used to sample the population, data collection techniques used, ways through which the collected data was analysed, it discusses the description of the study area, limitations and delimitations of the research as well as outlining ethical considerations considered in handling the collected data.

3.2 Research design
The researcher will carry out an evaluative survey on Matetsi Ward as a case study. In order to mine adequate, valid and reliable data a survey will be carried out on the case study using a qualitative approach however, quantitative approach cannot be side-lined out-rightly. Creswell, (2003) cited that, a survey gathers data at a particular point in time, with the intention of describing the nature of existing conditions or identifying standards against which existing conditions can be compared. The method will establish statistical methods for analysing data. The data can easily be summarised to facilitate the communication of the findings. This means that, the researcher can make references based on the data from the respondents. The fact that this approach does not rely on a single methodology ensures that the understanding of a research problem is improved.

Quantitative research involves the collection and analysis of closed-ended information such as information on attitudes, behaviour and performance instruments (Mbokane, 2005). In this regard, closed-ended questionnaires were used to collect data on the challenges for sustainable environmental conservation. The information collected was then analysed in such a way that the percentage of people making use of a particular strategy was calculated. On the other hand, qualitative research involves the collection of open-ended information (Creswell, 2003). In this respect, the research made use of face to face interviews at different stages of data collection. In collecting information from the community, a focus group interview was used to collect data from the village heads and the area councillor while face to face structured interviews were used to collect information from EMA officials.
3.3 Sampling methods

3.3.1 Target Population
This study targeted the households of Matetsi ward. There were 1000 households in Matetsi ward with ten village heads with each presiding over his village issues. A sample of 100 participants who represented the ward was selected such that all the villages were equally represented. Moreover, some key informants were also targeted, these include Matetsi ward (ward 1) councillor, one EMA staff, and ten village heads. These key informants were meant to provide data on the nature of the problem and also to give details as to how they are helping the community reduce the environmental malpractices. Village heads were meant to provide information on the challenges faced to achieve sustainable environmental conservation in the area. Below is a description of the sampling methods used and how the researcher employed then in sampling from that target population.

3.3.2 Purposive random sampling
The purposive sampling method was used to select individuals and departments to be interviewed as key informants as alluded to by Mbokane (2005). The departments were identified using their involvement in conservation programs in the ward and through the information provided by traditional leaders. An element of flexibility was made available for snowball sampling such that departments would refer the researcher to other departments with known interests in fighting for sustainable environmental conservation in the ward. These departments were then requested to provide an individual who was in a position to represent the organisation in the interview. EMA officials were as well identified as the key informants. The councillor and the village heads were as selected as the key informants on the basis of them being the overseers of community programs. The researcher assumed that the village heads and the councillor had the knowledge of the factors working against sustainable environmental conservation initiatives in the ward.

3.3.3 Convenience sampling
According to Leave (2005), a convenience sample can be defined as a sample whereby the participants are selected based mainly on their ease of availability, readiness, willingness and ability to participate. Basing on this, the researcher employed the convenience sampling technique to select participants from the community so as to reduce costs associated with data collection from a large population. However, Mbokane (2005) warns that caution should be taken in interpreting data collected through the use of this sampling method as it may not fully represent the total population. In relation to this study, the researcher decided to make use of
this sampling method with the understanding that most of the thematic environmental policies applied in the ward are homogenous throughout the ward, thus the results obtained can be generalized to the entire population with less chances of compromising validity.

Scholars have put in place some commonly agreed standards in terms of sample sizes to be included in research in order to get information that can be generalized to the entire population. According to Mbokane (2005), in a survey research it is desirable that there be at least 100 subjects in each major subgroup and 20 to 50 in each minor subgroup whose responses are to be analysed. Furthermore, Creswell (2003), suggested the following some guidelines for selecting a sample size. He states that for small populations of one hundred and below, there is little point in sampling. Thus the researcher has to include the entire population in the study. If the population size is around 500, half (50%) of the population should be sampled. If the population size is around 1500, 20% of the total population should be sampled. Beyond a certain point (for instance at approximately \( N = 5000 \)), the population size is almost irrelevant, and a sample size of 400 will be adequate. Given the fact that this researcher was working on a student thesis which is limited by time and financial constraints, the researcher settled for a sample size of 100 participants from the target population of 1000. These participants represented 10% of the households in Matetsi ward.

3.4 Data collection techniques
3.4.1 Focus group discussion
The researcher chose this instrument by the desire to acquire in-depth data about environmental conservation issues at Matetsi ward. In a group interview data is gathered through interaction between the researcher and the sampled group. People who are eligible to make up a group for this data collection instrument are often those who have particular experience or knowledge about the subject of the research and those who have a particular interest in it (Chimedza et al 2014).

The researcher conducted a focus group discussion with the village heads and the ward councillor. The discussion was guided by the pre-set questions soliciting for information about the environmental conservation awareness of the people, the role of EMA in environmental conservation in the ward as well as an assessment of whether EMA is successful in the implementation of its conservation policies in the ward. The researcher had considered the village heads and the councillor to be knowledgeable with information on the effectiveness of EMA policies in the ward. The participants were briefed on the purpose of carrying out the research and their consent was sought before the commencement of the group interview. The
aim of the interview was to discuss the causes of veld fires and poaching of wild animals and forest, to get an insight on the intrinsic traditional perspectives of natural resource exploitation and conservational awareness as well as the reasons for the failure by people to adhere to the defined environmental policies by EMA as the a department working with the community in attempts to reduce environmental degradation.

The focus group discussion conducted was comprised of ten village heads, constituting a 4.3% representation of the total number of households in the ward. According to, Mbokane (2005), the common size of a focus group should be made up of six to ten people so that it is manageable. In this light, an interview schedule was designed to solicit for data from the group interview. The schedule comprised of questions that covered the drivers of veld fires and poaching, people’s awareness of EMA’s environmental polies, people’s preconceived views on conservation and people’s awareness of the nature of their environment. The question guide was designed such that adequate space was left below each question for the interviewer to take down notes as the respondents answered the questions. Thus the responses were recorded immediately. This was very helpful as it enabled the researcher to have a complete record for the interview.

3.4.2 Self-Completed, Pre-Coded Questionnaire

Questionnaires were used to solicit for information from members of the community who were selected to make up the sample. These questionnaires were designed such that they were dominated by closed ended questions. According to Leave (2005), a closed question can be defined as a type of question posed by researcher to the sampled participants in research projects that specifies the parameters within which participants can provide their answers. The questions typically provide the respondents with possible responses that request specific facts or information from the survey respondents. Closed questions are usually used when conducting structured interviews and spoken and written questionnaires. They assume that people’s experiences may be reduced to facts that can be coded with pre-established researcher-generated categories. An example of a closed ended question is one that requires respondents to choose between “yes” or “no”. In some questions however, space was left for the respondents to provide answers that were not captured as possible answers by the researcher.

Mbokane (2005), states that questionnaires enables the researcher to organise questions and receive responses without having to talk to every respondent. Moreover, questionnaires are cheap and quick to administer, thus, they can be administered to a large population within a short space of time. They can also be designed such that they assist in the analysis stage, making
it possible for a researcher to have a chronological order of results that address the research questions (Mbokane 2005). It is for the reasons stated above that this researcher chose to make use of the Self-Completed, Pre-Coded Questionnaires.

The questionnaires used in this study carried an introductory message which outlined the purpose for carrying out the research. The main body was then divided into three sections. Section one covered the socio-demographic information of the respondents. These included the gender, age, employment status and tribe among other aspects. Section two was designed to solicit for information on the drivers of veld fires and poaching, people’s awareness of EMA’s environmental policies, people’s preconceived views on conservation. Section three contained questions that requested the respondents to identify the strategies they were using to conserve their environment. Space was provided for the respondents to add comments on issues which were not captured by the researcher.

A total of 100 questionnaires were distributed to different households who were selected through the random sampling technique. The researcher took advantage of gatherings organised by village heads in their respective areas to solicit for respondents.

3.4.3 Face-To-Face Interviews
Visits were made to the EMA officials and other departments working with the ward. In this regard, an interview schedule designed by the researcher was used to facilitate the interviews. In designing the schedule, ideas from Chimedza et al (2014), were put into account. He states that when devising an interview schedule one must consider that the content of the interview involves decisions about a number of things: one has to decide on what questions to ask, how to phrase the questions, depth and breadth of topics to be included and the question sequence. The interview schedule depends mainly on the purpose and focus on the research and thus one ought not to lose sight of the objectives to be achieved through the interview. Probing and follow up questions were used in the interviews. The interview guide was designed such that adequate space was left below each question for the interviewer to take down notes as the respondents answered the questions. Thus the responses were recorded immediately and almost verbatim. This was very helpful as it enabled the researcher to have complete records for the interviews.

These interviews were designed such that they do not last for too long at the same time capturing all the necessary information. They were administered to individuals who were provided by the organisations.
3.5 Data analysis
To ensure that data collected from the respondents was clearly interpreted, the researcher made use of Microsoft office excel to analyse the data. Descriptive statistics was the main data analysis method used. Tallies were used to count the number of respondents giving uniform responses. Tables were then created on the spreadsheet program to make it easy for the researcher to get percentages of people using a particular strategy. From the created tables, diagrammatic presentations were made, these were in the form of graphs for easy analysis of the collected data.

3.6 Validity and Reliability
Leave (2005) notes that researchers ought to focus on maximising the validity of their study. He further states that a study were validity was maximised is guaranteed of having reliable results. Mbokane (2005) identifies the use of triangulation as one of the leading strategies that researchers can use to ensure that their findings are valid and reliable. Triangulation is useful mainly in the reduction of chances of bias in a study which is a major threat to validity and reliability. This researcher settled for the triangulation method by making use of both qualitative and quantitative research methodologies as well as varying the data collection techniques.

Moreover, the data collection instruments designed for this study focused more on the key aspects of the research, ensuring that much attention was directed towards the key variable of the study. The key variable being the efficacy of EMA policies on conservation of environmental resources. The researcher further made use of sampling techniques that ensured that potential participants were given equal opportunities of being selected into the sample. The number of participants selected for the study were such that the results of the study are generalizable to the entire population of the Matetsi ward.

3.7 Description of the area of study
3.7.1 Location
Matetsi ward is a resettlement area established in the year 2000. It is situated in Hwange West constituency (Hwange District). The ward is bounded by the Hwange National Park, Hwange Hunting Camps to its west and the Bulawayo Victoria Falls highway to its east. See maps on Appendix 1 and 2. On the other side of the high way is the equally vast Jambezi Communal Lands from where most of the settled famers were drawn. The information gathered from the officers (Mr Marandu) at the ministry of lands in Hwange District informs that the settlement covers an area of 44 000 hectares comprising of 10 farms settled in a village A1 model. It is said
that initially only 500 households were resettled but the number has since doubled to 1,000 households in the last 17 years. The total population has as a result also risen to 6,000 people from the initial population of 3,000 people.

MAP SHOWING MATETSI WARD AND ENVIRONS


3.7.2 Climatic conditions
The Ward falls under farming region four which according to Vincent and Thomas (1960) in Hill (1991) has an annual rainfall of between 450 and 650 mm with high temperatures. Animal production also appears to be a viable activity in this area.

3.7.3 Major activities (livelihood)
Like most rural communities, Matetsi ward is highly dependent on agriculture for livelihoods. Crop production is the popular feature of agriculture with many people involved. Cereal crop production in the form of maize production dominates. Other crops like beans, round and ground nuts as well as melons are also produced. People also practice animal production, cattle, goats, donkeys and road runner chickens as main animals kept. This sector is however crippled by lions which find easy prey in cattle and donkeys kept by the people in this area.
However, the main characteristic of Matetsi Ward is that it is home to a diverse species of flora and fauna, among these Teak Forests in the Fuller Forest area, dense Mopani trees, Acacia trees and flourishing grasslands. There is a teeming population of Buffaloes, Elephants, Leopards, Lions, Giraffes and other species of animals which are also found in the neighbouring Hwange National Park. The soils range from fragile Soddy soils, clay to some heavy textured soils through which Matetsi River flows. Kept in its pristine state Matetsi Ward can be a haven for ecological tourism and trophy hunting.

3.8 Limitations
The study could face some limitation in achieving its objectives. Acquiring the much needed information from the EMA officers could be difficult as they may not want to expose the weaknesses of their organisation in its fight against environmental degradation. Thus the researcher could face a situation where some valuable information is hidden by the officials.

In the same vain, members of the community could possibly hide some sensitive information from the researcher. Some practices that are against the law could go unnoticed by the researcher as the interviewees may hide it with the view of protecting community secrets. In light of the above mentioned limitations, this researcher ensured that the respondents understood the purpose for carrying out the study, trust was built between the researcher and the respondents through making clear the purpose of the study. Thus the respondents became free to communicate responses with assurance that their identity will not be revealed to anyone and their ideas will not be used against them in anyway.

Some members of the community may refuse to participate as they may not fully understand the intentions of the researcher. Some may view the activity as a way of exposing the dirty deals that could be taking place, for example poaching. The researcher will therefore ensure that trust is built with the respondent so that they become free to communicate the information with a guarantee that it will be treated with high levels of confidentiality.

3.9 Delimitations
This research will focus only on the effectiveness of the Environmental Management Agency in its implementation of environmental conservation policies in Matetsi Ward. The environmental malpractices that are of concern in this study which seems to be the main problems in this area of study are veld fires, excessive cutting down of trees and poaching. Thus this study will only probe for information about EMA’s efforts in combating these environmental unfriendly practices and nothing else. This is because it will be relevant to
address the practical problems the area experiences so as to come up with relevant specific findings, solutions and recommendations that will try and improve the environmental problems in the area under study.

3.10 Ethical considerations

It is pertinent to consider the proper conduct of this research. The research will accommodate the responsibility to protect the interests of all the respondents participating in the research. With regards to the survey respondents, no one will be coerced to respond to the study. The respondents will be asked to participate at their own freewill, that is, they will be told of their rights not to participate or to end their participation if they so wish as supported by (Mbokane, 2005). The respondents will also be guaranteed protection through anonymity and their identity will be held in strict confidentiality. Specifically, the institutions that will greatly help this research by allowing access to their databases will be treated with utmost care and respect to their reputation. Information from vulnerable groups will also be kept in highest protection and only for academic purposes. Their identities will not be revealed and data gathered will not be manipulated. This study will follow proper rules and procedures so as to protect the rights of individuals who will participate in the research as well as the scientific rule. Mutual respect on relationships with the research population will be the cornerstone for this research. Therefore, the study will up hold the ethical code of conduct.

As a result, the researcher sought permission to conduct the research in the community from Hwange Rural District Council ward One councillor and the EMA representative based on the ward, and they all granted the researcher the permission on behalf of their represented departments. A request for a face to face interview session with the EMA official was made to the area manager from Hwange District Offices. Another request was also made to conduct a face to face interview with one Parks official from the department’s Victoria Falls station manager. Permission was also granted to interview an officer of the forestry commission from the Hwange Section. The participants were not forced to participate in the study. They were politely requested and the researcher highlighted the purpose of the research and how it is likely to benefit them before requesting for their consent to participate. The researcher also made it clear to the respondents that they were free to stop supplying the information though they were encouraged to participate fully. Furthermore, a guarantee was given to the respondents prior to their participation that the information they will provide will be treated with high levels of confidentiality.
3.11 Conclusion
This chapter outlined the approaches used to get the best and reliable results from the study. It spelt out the research paradigm, research approach and the research design used, the methods used to sample the population, data collection techniques used, ways through which the collected data was analysed and some ethical considerations considered in handling the collected data. The next chapter will focus on the presentation of the findings of the research.
CHAPTER 4 - RESULTS PRESENTATION, INTERPRETATION AND DISCUSSIONS

4.1 Introduction
Results were the conclusions from data collected through the use of questionnaires and interviews to assess the effectiveness of EMA’s environmental conservation policies in the Matetsi Ward in Hwange district of Zimbabwe is presented, interpreted and discussed in this chapter. Responses collected from different villagers and village heads is recorded in different tables and is expressed as percentages of total responses per section. This percentage system was preferred in order to provide a standard measure for effective analysis and interpretation. A summary of all the responses is provided, after all the data from all respondents has been presented, analysed and interpreted. The summary also shows average responses for the entire research. It is from the presentation, analysis and interpretation of the responses that conclusions and proposals will be made.

The questions for the entire research were presented in three section. All the one hundred respondents were asked questions which related to their background, in Section A. Section B questions form the bulk of the questionnaire interrogating both the efficacy of EMA’s policies and the villagers’ own perception on sustainable environmental conservation. Section C seeks the villagers’ opinions on what needs be done (by EMA) to sustainably conserve the environment, in Matetsi Ward.

4.1.1 Summary of responses from Section A
In Section A the respondents were asked to state their sex, social standing and highest educational qualification attained. A total of one hundred questionnaires were distributed to different villages in Matetsi wards targeting an equal number of male and females, village heads and religious leaders. All the questionnaires handed out were returned because the researcher recorded each responded who got a questionnaire and made rounds collecting the same after having given the respondents time to fill in the questionnaires. Accordingly fifty males and fifty females filled in the questionnaires. This was done in order to get a balanced view, from both sexes, on the sustainable conservation issues in Matetsi Ward. Table one below shows their responses to their back ground questions asked.
Table 4.1 Responses to Background Information

<table>
<thead>
<tr>
<th>Sex</th>
<th>Social Standing</th>
<th>Male (%)</th>
<th>Female (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Bread winner</td>
<td>29</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>House wife</td>
<td>0</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>School leaver</td>
<td>21</td>
<td>4</td>
</tr>
<tr>
<td>ii.</td>
<td>Highest education qualification</td>
<td>Primary education</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>Secondary education</td>
<td>28</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>University graduate</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

n= 100

Source: Calculated from primary data

More than half (29%) of males were breadwinners, meaning they were heading households, while forty-two of the fifty women were housewives. Apparently, less than half (13%) of the women in polygamous matrimony. A bigger polygamous family will likewise generally have a bigger dependence on the natural environment for food, fuel and housing needs. A quarter (25%) of respondents were school leavers, in other words they are still dependents, having left school in the past five years. From the population there is a small fraction of breadwinners looking after both house wives and school leavers meaning there is a huge pressure on the breadwinners to find diverse sources of finance or other resources to provide for their families. This trend is also reflective of the general trend in the country at the moment where there is a small fraction of ‘employed’ breadwinners against a vast pool of unemployed dependents. This is also important in that the unemployed may spend most their time ‘interacting’ with their rich natural environment, endowment in animals and forests. Some (33%), below half of the respondents have only primary level education, while above half (63%) of them attained the secondary level of education. The community boats of a literate settlement. Surprisingly there is far less than a quarter (4%) presence of university graduates among the respondents in the ward. The presence of university graduates in the ward means there is a vast great potential of people that conservationists, EMA in particular, can utilise to mobilise communities in sustainable environmental conservation campaigns. On the whole it is pleasing to note that the ward is full of literate people, who are fairly able to read and understand the conservation rubric and indeed answer the questionnaire competently.
4.1.2 Table 2. Responses from Section B: Examining the efficacy of EMA conservation policies in Matetsi Ward.

4.1.2.1 General knowledge about EMA, by respondents,

<table>
<thead>
<tr>
<th>HOW EFFECTIVE ARE EMA POLICIES ON ENVIRONMENTAL CONSERVATION IN MATETSI WARD?</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, Do you know EMA and its functions in relation to the natural environment?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>80</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>2, Has any of EMA’s policies on environmental conservation been explained to you?</td>
<td>yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>53</td>
<td>47</td>
<td>0</td>
</tr>
<tr>
<td>3. Describe EMA’s conservation activities in Matetsi Ward</td>
<td>effective</td>
<td>Not effective</td>
<td>Not sure</td>
</tr>
<tr>
<td></td>
<td>55</td>
<td>45</td>
<td>0</td>
</tr>
<tr>
<td>4. Has EMA ever acted on anyone found degrading the environment?</td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>24</td>
<td>46</td>
</tr>
</tbody>
</table>

n= 100

Source: Calculated from the primary data.

Section B interrogates the efficacy of EMA’s policies in sustainable environmental conservation, with regards to Matetsi Ward. It has four segments. The first segment finds out how much the respondents know about EMA as an organisation. This will give the researcher some yardstick to evaluate the villagers’ ability to measure EMA’s work in Matetsi Ward. The second one looks at what preconceptions the responds hold on environmental conservation, with a view of assessing the influence of the Matetsi villagers’ cooperation, or lack of it, with EMA. The villagers’ awareness of the nature of their natural environment, of Matetsi Ward, is covered in segment three. Such knowledge can only come about by possible environmental education awareness campaigns by, expectedly, EMA. Ignorance of it will point to EMA’s weaknesses in executing its policies in the ward under study. Segment four interrogates the major environmental degradation aspects, as seen by villagers, in Matetsi Ward, pointing to the need for EMA to effectively address the situation. Section B therefore forms the bulk of the questionnaire.

Table 4.1.2.1 above, in the first segment of section two, it is gratifying to note that above half (80%) of the respondents know about EMA and its functions in relation to the natural environment. This will enable the villagers to be able to state if EMA is effective or not in carrying out its mandate. A tolerable number (20%), below a quarter was not aware of EMA. This is a slight indication too that EMA has left some grey areas in the ward. It also begs the
question how do the others know about EMA? It could through some of EMA’s own campaigns in the Ward or through the respondents’ own research from other sources. The positive thing is that the majority know (by nook or crook) about EMA. The question that follows shows that almost equal propositions of villagers have had EMA policies explained to them (53%), which is slightly above half, while (47%), slightly below half, of them have had no EMA policies explained to them. The reasons for such differences can be many, however a good number are in the knowhow of EMA’s policies. It is a concern however that a big number has not been informed fully on EMA’s policies, which exercise, of informing villagers on its policies, rests on EMA’s door step. This lack of full knowledge on EMA’s policies is seen in the small margins between those who say EMA’s policies are effective (55%, a value above average) in Matetsi Ward and those who say that they are not (45%, which is below average). On the other hand less than half (46%) are not sure if EMA has ever acted on anyone found degrading the environment. Only below half (30%) of respondents said EMA has acted on offenders while the other below half number of respondents (24%) said it has not. The majority weighs heavily on the side of lack of punitive action from EMA on offenders, if one combines the 46% of the not sure and 24% who say EMA has not acted on offenders a total of (70%) thus above half might be suggesting that the offenders go unpunished.
Below is table 4.1.2.2 which looks at the farmers’ preconceived views on conservation.

**Table 4.1.2.2 Farmers preconceived views on conservation.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Not sure (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. As a resettled farmer are you aware of existing environmental policies?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>59</td>
<td>25</td>
</tr>
<tr>
<td>6. Would you say methods used to effect environmental conservation policies in Matetsi Ward are effective?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>True</td>
<td>False</td>
<td></td>
</tr>
<tr>
<td></td>
<td>63</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>7. In your view, are there any satisfactory benefits to the local community in conserving natural resources?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>18</td>
<td>22</td>
</tr>
<tr>
<td>8. Do you think the starting of veld fires and poaching destroys the environment or not?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
</tr>
<tr>
<td></td>
<td>83</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>9. Are people starting veld fires and those poaching wood and animals always prosecuted?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Not always</td>
</tr>
<tr>
<td></td>
<td>47</td>
<td>14</td>
<td>39</td>
</tr>
<tr>
<td>10. Are there any strategies to control the veld fires and poaching?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Not always</td>
</tr>
<tr>
<td></td>
<td>58</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>11. In your opinion do you think there is need for limitation on how resettled farmers should use the natural resources around them?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
</tr>
<tr>
<td></td>
<td>64</td>
<td>15</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: Calculated from the primary data.

In the immediate table above, more than half (59%) of the respondents expressed ignorance on any existing environmental policies. Further, a quarter (25%) of them are not sure of any environmental policies. Only a paltry 16%, less than a quarter of respondents is aware of some of the existing environmental policies. This casts doubt as to whether the villagers can be able to abide by requirements demanded by EMA’s environmental policies of which they are less informed about and, worse still, very ignorant of. It is then confusing to note in what aspect that most of respondents above half (63%) are of the view that methods used to effect environmental conservation are effective in Matetsi Ward. The logical inference from this then is that these policies they know could be from some other sources than those derived from EMA. Half of the total percentage affirmative respondents (37%) think that it is not true that these methods are effective at all. It could be the affirmative respondents, as alluded to above, had other methods in mind not necessarily related to EMA, as the question also did not specify to say methods used by EMA. On the other hand it is good to note that most of the respondents
above half (60%) believe that it benefits the community to conserve their natural environment. Even the less than a quarter (18%) who say it is not, combined with the quarter (22%) of those who are not sure, do not outweigh those who see benefits in conserving the natural resources. Similarly a favourable and impressive number far above half (83%) of the respondents see harm in the starting of veld fires. Both percentages, below the quarter (7% and 10%), of those who say there is no harm in starting veld fires and those who are not sure, respectively, is very low (17% in total).

There are divided views however on whether those who start veld fires are always prosecuted or not, most respondents though below average (47%) said yes they are prosecuted, while 39% said not always. In the middle, less than a quarter (14%) of the respondents completely refuted that. The feelings here are mixed and almost even, but more towards negation. This mixture of feelings can be ascribed to lack of consistency on EMA in handling environmental conservation violation in Matetsi Ward. On the other hand a great majority above half of them (58%) said there are strategies in place to control veld fires and poaching. To reflect this inconsistency further a sizeable number on the presence of conservation strategies said ‘Not always’ and ‘No,’ 42% in total, thus below an average figure. The respondents are very clear on the need to limit natural resources utilisation with most respondents above half (64%) in the affirmative. The other sides, both scored marks below a quarter (15% and 21%) of the respondents said no and not sure respectively. This shows willingness on the part of the villagers to abide by any controls demanded by the dictates of sustainable environmental conservation. Below, in table 4.1.2.3, the villagers’ awareness of their new environment is examined.
Table 4.1.2.3 Farmers’ awareness of the nature of their resettlement environment.

<table>
<thead>
<tr>
<th>Question</th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the resettled farmers aware of the nature of their new environment?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Is it possible to fully conserve the natural environment in Matetsi Ward?</td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
</tr>
<tr>
<td></td>
<td>68</td>
<td>13</td>
<td>19</td>
</tr>
<tr>
<td>13. If yes in (12 above), State ways in which this can be done within Matetsi Ward?</td>
<td>I</td>
<td>ii.</td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td>Combat poaching</td>
<td>EMA to educate community</td>
<td>Combat veld fires – Fireguards</td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>33</td>
<td>31</td>
</tr>
<tr>
<td>14. Are resettled farmers educated on sustainable farming methods?</td>
<td>True</td>
<td>False</td>
<td>rarely</td>
</tr>
<tr>
<td></td>
<td>49</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>15. Are there any special ward based environmental conservation awareness programmes?</td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>47</td>
<td>19</td>
</tr>
<tr>
<td>16. If any, who conducts environmental awareness programmes being carried out within your area?</td>
<td>NO IDEA</td>
<td>HRDC(^1)</td>
<td>NPWM(^2)</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>5</td>
<td>34</td>
</tr>
</tbody>
</table>

n=100

Source: Calculations from primary data

It is clear in the minds of more than half (68%) of the respondents that it is possible to conserve the natural environment at Matetsi Ward. Some are in doubt, less than a quarter (19%), while another 13% (less than a quarter too) say it is not possible to do so. This question is meant to test the villagers’ attitude to conserving their environment. The majority do not find the idea of conservation repugnant to them. Seemingly the great majority of the resettled farmers, though a figure below half (36%) of them, see poaching as the scourge that needs to be dealt with in Matetsi Ward. In separate interviews EMA officials say the leading environmental problem in Matetsi Ward are the veld fires. I believe the farmers know better than the EMA officials. Secondly a less than half (33%) of the respondents see possible conservation educational campaigns by EMA as a vehicle to conserving their natural environment.

The problem of veld fires ranks least in the villagers concerns for competent environmental conservation. Admittedly most resettled farmers are educated on sustainable farming methods. This is a feat attributed to the ministry of Agriculture through its resident agricultural extension

\(^1\) Hwange Rural District Council
\(^2\) National Parks and Wildlife Management
\(^3\) Environmental Management Agency
officers, as pointed out by village heads in interviews. When it comes to knowledge of ward based environmental conservation programs a slightly below average (47%) of the respondents are in the dark, another less than an average (34%) of them said they are aware of such programs and less than a quarter (19%) said they are not sure. Incidentally a 34% (below average) of the respondents cited National Parks as the most active body in conducting environmental conservation awareness programs. EMA trails behind with an above quarter (31%) of the respondents saying it does the same as well. The Rural District Council is also active in environmental conservation in the ward. A great number (30%) however expressed ignorance on anyone conducting any conservation campaigns in the ward. It could be these campaigns are not effectively communicated to the villagers. In table 4.1.2.4 below the Matetsi community identifies the main causes of environmental degradation problems in Matetsi Ward.

<table>
<thead>
<tr>
<th>17. What causes veld fires?</th>
<th>Poachers (%)</th>
<th>Farmers in fields (%)</th>
<th>No idea (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>61</td>
<td>13</td>
<td>26</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>18. Who does animal poaching?</th>
<th>Unemployed youths (%)</th>
<th>Villagers from rural areas (%)</th>
<th>No idea (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>48</td>
<td>29</td>
<td>23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>19. Is land degradation a problem in Matetsi?</th>
<th>Yes (%)</th>
<th>No (%)</th>
<th>Not sure (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>69</td>
<td>11</td>
<td>20</td>
</tr>
</tbody>
</table>

n=100

Source: Calculated from the primary data.

Three environmental degradation issues come to the fore, namely poaching (of both animals and woods), veld fires and general land degradation. On causes of veld fires, 61% of the respondents lay the blame on poachers. Thus poaching and veld fires are two evils combined in Matetsi Ward. Farmers themselves, as 13% of the respondents point out, also unwittingly contribute to the problem of veld fires, in their routine clearing of fields, just before the onset of each rainy season. Veld fires destroy large swathes of Matetsi Ward annually. In the last season (year 2017) for example, 30 540, 99 hectares out of a total of 44 000 hectares (61.4%) of land went up in flames, according to EMA statistics. Poachers also wreak havoc in the area, snares have been found littered in the forests and kept at Matetsi Ward centre at Masikili
village. Jumbos have been decimated through cyanide poisoning as poachers target their tasks. The once teeming population of Matetsi wild life is now a thing of the past as most wild life has retreated deep into the national park fleeing both poachers from within and without Matetsi Ward, as pointed out by a total of 29% of the respondents. Demand for fuel, fields and fencing poles is slowing clearing the vegetative cover of Matetsi ward. It is evident that the villagers, above half (69%) of them, a wary of the problem of land degradation. This is caused by uncontrolled livestock rearing, overgrazing and deforestation. One man in Masikili owns over 300 herd of cattle, 100s of goats, sheep and donkeys against a stipulated 10 per household. Most homesteads also over-shoot this limit. More so the pressure on the land is increased by the slowly swelling homesteads of Matetsi Ward. Originally the Ward was meant to cater for a population of 1000 people but now it has trebled to 3000 people. The authorities are paying a blind eye to all this. The researcher wanted to find out what the villagers think should be done to combat these environmental problems. The table 4.1.3 below sums the solutions they proffered.

SECTION C

Table 4.1.3 Personal Opinions

<table>
<thead>
<tr>
<th></th>
<th>(%)</th>
<th>(%)</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>20. What traditional methods do you use to conserve</strong> your environment?</td>
<td></td>
<td>Taboos</td>
<td>Leaders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>80</td>
<td>14</td>
</tr>
<tr>
<td><strong>21. In your opinion what do you think EMA should do to improve the implementation of its policies on environmental conservation in order to ensure sustainable utilization of the natural resource?</strong></td>
<td></td>
<td>Ema to employ scouts</td>
<td>Ema to prosecute offenders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td>30</td>
</tr>
</tbody>
</table>

n=100

Source: Calculated from primary data.

Although the colonial era distorted most traditional methods of environmental conservation, the Matetsi Ward community is still practising a few of them. More than two-thirds (80%) of the respondents said they observe taboos in mitigating environmental degradation. This is noteworthy to see that the community itself is also trying to conserve its environment using Indigenous Knowledge Systems. Traditional leaders’ guidance is still respected here with less than a quarter (14%) of the respondents showing that they abide by what their leaders in the community say. Some religious observations are also being upheld by a section of the Matetsi community in conserving the environment. The villagers has also some advice for EMA. The bigger majority, above half (55%) say EMA must be more visible in the ward to effectively
implement conservation practices in Matetsi Ward area. The other 30% of the respondents, also want EMA to flex its muscle by taking action against offenders. Apparently most environmental violations go unpunished. Villagers also implore EMA to employ environmental protection scouts to protect the environment.

4.2 Conclusion
In this chapter data collected through the use of questionnaires and interviews to assess the efficacy of EMA environmental conservation in Matetsi Ward. Were presented, analysed and interpreted. Tables were used with three sections composed of equal numbers of both male and females. Respondents’ responses were recorded as percentages of total responses in each segment. One supra Table was used to combine all the responses from different segments from both sexes.

The research findings indicated that EMA policies are not known nor are they visibly executed in Matetsi Ward in Hwange District, Zimbabwe. Further, the research discovered that women in Matetsi Ward are less informed on EMA policies than men although they are more assertive on environmental conservation preconceptions generally. The research also found out that EMA is lagging behind the department of National Parks and Wild life Management, in raising environmental conservation awareness in Matetsi. The Matetsi Ward community is well aware of the conservation challenges it faces and has practical solutions to combat the same in conjunction with EMA.

The research also established that EMA has its perception of the top priority environmental challenges bedevilling the Matetsi Ward while the Matetsi Ward community itself priorities another. The resettled farmers in Matetsi Ward are a literate lot with the bulk of respondents having attained secondary school level of education. However the research also noted that there is a vast pool of unemployed youths who are unsustainably utilising the natural resources in Matetsi Ward through poaching and starting of veld fires.

The research further noted that women and men have different approaches to solutions to conservation issues in Matetsi Ward. Women want a hands on approach to combating environmental degradation while men prefer a more academic way. EMA can exploit both approaches to bring about a sustainable environmental conservation in Matetsi Ward. In the next chapter below I give a summary of the whole study, the research findings conclusions and give recommendations.
CHAPTER 5 - SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of research findings
The research assessed Sustainable Environmental Conservation and the Efficacy of EMA Policies in Resettlement Areas, with particular reference to Matetsi Ward. Data was obtained through the use of questionnaire and interviews. A total of one hundred respondents were sampled comprising of equal number of both men and women. In these groups also opinion leaders were targeted, such as village heads and herdsman, as well as youths and the elderly to get a cross section of the community’s understanding of sustainable environmental conservation and EMA’s policies. The councillor of the Ward, Forestry, National Parks and Wildlife and EMA officials were interviewed separately.

Encouragingly the questionnaires had a 100% response rate. This could be ascribed to the fact that Matetsi Resettlement Area is composed of a homogeneous society dominated by war veterans and their families, hence a desire to cooperate with things to do government line ministries or parastatals. Secondly the community is fairly literate and could manage to answer the questionnaires comfortably. The respondents were asked to provide their back ground information covering sex, social standing and highest educational level attained, in Section A. Section B contained four segments. The first segment had four questions interrogating the effectiveness of EMA policies on environmental conservation in Matetsi Ward. The second segment’s seven questions looked at how the Matetsi preconceived environmental conservation issues. In the third segment the respondents were asked five questions relating to the awareness of the conservation dynamics of their new environment. The fourth segment had three question to identify the main drivers of environmental degradation in Matetsi Ward. Section C of the questionnaire solicited the personal opinions of the respondents on their attitude to traditional methods of conservation and how what they think needs be done by EMA in sustainable environmental conservation in their Ward.

The research findings is that the need for a quick buck and substance is the major cause of unmitigated utilisation of natural resources, by the unemployed youths in Matetsi Ward and from the surrounding villages. Poaching is rampant in the ward to meet this need. The wild life stock is fast dwindling in the area, if unchecked could even compromise the hunting safaris dotted in and around the ward and even the Hwange National Park itself. There is a large pool of unemployed youths in the ward and the need to make ends meet drives them into using the animal resource at their disposal. There is a ready marked both inside and outside the ward, especially in Victoria Falls, for game biltong. Coupled with this is the fact that the proceeds
from the trophy hunting seem not to cascade down to the individual household to see and enjoy them directly.

The political component is also another factor to environmental degradation. The resettled farmers are mostly drawn from war veterans. There is a mind-set that says the resources belong to us and can be utilised anyhow. This mind-set also destroys not only the natural environment but also even the human environment, many farming equipment and infrastructure has been vandalised in the name of grabbing what I need. The politics of the area secludes many government watchdogs, such as EMA, from the area, hence the community does as it pleases.

Another factor to environmental degradation in Matetsi Ward is the ignorance of specific of EMA environmental conservation policies in relation to Matetsi Ward. The resettled farmers do not fully appreciate how to handle their environment. Many of them look at the fertile black clay soils and clear large swaths of land for cultivation. The very lands cleared were the priced habitats of wildlife in the area. Thus the animals’ population has been relegated to the less vegetated hilly areas of Matetsi, exposing them to the ever marauding predators. On the other hand because predators are normally territorial they have found easy prey in the resettled farmers livestock, a situation that irks them. The Matetsi natural environment is suitable for animal or hunting safari than cultivation and extensive human habitation. The farmers seem not to have been educated on this and the authorities that be, have let the situation develop unchecked.

More so EMA seems to be seriously incapacitated to be felt in the Ward. There are no mechanisms in place to implement and monitor EMA conservation strategies in Matetsi Ward. Offenders have been seen and are known in the ward but EMA has not come to take action on them. Another extended handicap here is that EMA does not have its own security with arresting powers. The lack of prosecution of offenders does not deter other people from doing the same. Mostly it is the National Parks rangers that come to act on offenders when there has been a public offence, such as that massive poisoning of a herd of elephant outside the Hwange National Parks. Normally the National Parks rangers limit their anti-poaching patrols within the national parks boundaries. Most poaching activities outside the national parks mostly go undetected as a result. Below I give recommendations on what can be done in Matetsi Ward by EMA, especially, to effectively implement its environmental conservation policies.
5.2 Conclusion
The conclusions were derived from the research findings as highlighted above. The major conclusion is that there are unsustainable environmental practices at Matetsi Ward and the EMA as an organisation is ineffective in the implementation of its policies at Matetsi Ward. In assessing the efficacy of EMA policies in Matetsi Ward it became evident that there is a glaring absence of EMA presence in Matetsi Ward and its attendant activities periodically. The environmental problems in Matetsi Ward are fuelled by a contingent of unemployed youths, the lack of appreciation of the nature of the proper land use of Matetsi Ward and the general lack of means by villagers to dependent less on the environment for daily fuel and shelter needs. It is the researcher’s hope that the recommendations will be adopted and implemented by EMA mad other various stake holders in the area around Matetsi Ward.

5.3 Recommendations
The following proposals are meant for all stake holders in sustainable environmental conservation in Matetsi Ward. The recommendations are also meant to help the community against environmental degradation.

5.4.1 Youths needs to be capacitated for self-help projects such as chicken rearing, piggeries or bee keeping. This will go long way in giving them something to do and a sure source of income. There is need in this regard for the local authority, safari operators in the vicinity and government at large to pull resources together and help these youths.

5.4.2 EMA and indeed the ministry of lands and agriculture should carry out extensive educational campaigns on the best ecological friendly practices in Matetsi Ward. Seeing that Matetsi Ward in the biodiversity of the nation efforts should be made to electrify the settlements or residents be mended to use solar or gas energy in order to curtail the dependence of vegetation as a source of fuel. More so the proceeds from the hunting quotas the community has should be channelled to building a brick structure for each home stead. This also reduces pressure on trees for shelter. Alternately the farmers be encouraged to construct houses from baked bricks.

5.4.3. EMA should carry out periodic conservation campaigns in the ward. It should have literature targeted for Matetsi ward on how best to conserve the environment in Matetsi Ward. The literature can be in English and more importantly in Nambiya the common language spoken in the Ward. There can also be joint meetings arranged by EMA and National Parks to combat environmental degradation. EMA could also have a data base of all the farmers and the
Ward and use the sms or whatsapp platforms to raise conservation awareness in the resettled farmers.

5.4.4 There is need for EMA to have its own security in the area, doing regular and random patrols, to arrest and have offenders prosecuted. The community has employed private, a few scouts (two in Masikili village for example) whom they pay from proceeds of hunting quotas. They seem to be over whelmed by the responsibility and most of them can find it difficult to pounce on their kith and kin. Matetsi is a big area needing a visible presence of these arresting scouts to make meaning deterrent to poaching activities in the area.

5.4.5 The Matetsi Ward needs decongestion. The continued swelling of the population will yield negative and catastrophic results in the foreseeable future in Matetsi Wards. Strict settlement rules and requirements need to be adhered to. Those that demonstrate capabilities for great agricultural land tilling prowess and animal husbandry must be relocated to areas that favour such practices. This will ensure that the Matetsi ecological environment is maintained and preserved for both the present and future generations in the ward.
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APPENDICES

APPENDIX 3 Questionnaire

QUESTIONNAIRE

My name is Mpumelelo Ngwenya, I am a student at Bindura University of Science Education (BUSE) registration number B1129666, doing a Master of Science Education (MScEd) Degree in Geography. I carrying out a research to evaluate the effectiveness of EMA’s environmental policies on environmental conservation in Matetsi Ward. Your honest and truthful responses to the following questionnaire will assist me to produce a document which will further assist all stakeholders in their endeavour to effectively conserve the natural resources in the ward.

SECTION A

BACKGROUND INFORMATION

Fill in the following by ticking the appropriate space.

1. Sex (a) Male [ ] (b) Female [ ]

2. Social Standing (a) Breadwinner [ ] (b) Housewife [ ] (c) Student/School leaver [ ]

3. Highest academic qualification:   (a) Primary education [ ]   (b) Secondary education [ ]   (c) University graduate [ ]

SECTION B

Tick in the appropriate space.

i. How effective are EMA policies on environmental conservation in Matetsi Ward?

1. Do you know EMA and its functions in relation to the natural environment? (a) Yes [ ] (b) No [ ]

2. Has any of EMA’s policies on environmental conservation been explained to you? (a) Yes [ ] (b) No [ ]

3. Describe EMA’s conservation activities in Matetsi Ward (a) Effective [ ] (b) Not effective at all [ ]

4. Has EMA ever acted on anyone found degrading the environment? (a) Yes [ ] (b) No [ ] (c) Not sure [ ]
ii. What are the resettled farmers preconceived views on conservation in Matetsi Ward?

5. As a resettled farmer are you aware of existing environmental policies? (a) Yes [ ] (b) No [ ] (c) Not sure [ ]

6. Would you say methods used to effect environmental conservation policies in Matetsi Ward are effective? (a) True [ ] (b) False [ ]

7. In your view, are there any satisfactory benefits to the local community in conserving natural resources? (a) Yes [ ] (b) No [ ] (c) Not sure [ ]

8. Do you think the starting of veld fires and poaching destroys the environment or not? (a) Yes [ ] (b) No [ ] (c) Not sure [ ]

9. Are people starting veld fires and those poaching wood and animals always prosecuted? (a) Yes [ ] (b) No [ ] (c) Not always [ ]

10. Are there any strategies to control the veld fires and poaching? (a) Yes [ ] (b) No [ ] (c) Not always [ ]

11. In your opinion do you think there is need for limitation on how resettled farmers should use the natural resources around them? (a) Yes [ ] (b) No [ ] (c) Not sure [ ]

iii. Are the resettled farmers aware of the nature of their new environment?

12. Is it possible to fully conserve the natural environment in Matetsi Ward? (a) Yes [ ] (b) No [ ] (c) Not Sure [ ]

13. If yes in (12 above), State ways in which this can be done within Matetsi Ward?
   
   i. ..................................................
   
   ii. ..................................................
   
   iii..................................................

14. Are resettled farmers educated on sustainable farming methods? (a) True [ ] (b) False [ ] (c) Rarely [ ]
15. Are there any special ward based environmental conservation awareness programmes? (a) Yes [ ] (b) No [ ] (c) Not Sure

16. If any, who conducts environmental awareness programmes being carried out within your area? (a) None [ ] (b) The Zimbabwe Republic Police [ ] (c) Hwange Rural District Council officials [ ] (d) National Parks and Wildlife Management officers [ ] (e) EMA [ ] (f) Other……………………………………

iv. What are the main drivers of environmental degradation in Matetsi Ward?

17. What causes veld fires? (a) Poachers [ ] (b) Farmers in fields [ ] (c) No idea [ ]

18. Who does animal poaching? (a) Unemployed youths [ ] (b) Villagers from rural areas [ ] (c) [ ] No idea

19. Is land degradation a problem in Matetsi? (a) Yes [ ] (b) No [ ] (c) Not Sure [ ]

SECTION C PERSONAL OPINION

20. What traditional methods do you use to conserve your environment?
   i. ………………………………………………………………………………………………
   ii. ………………………………………………………………………………………………
   iii. ………………………………………………………………………………………………

21. In your opinion what do you think EMA should do to improve the implementation of its policies on environmental conservation in order to ensure sustainable utilization of the natural resource?
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APPENDIX 4 INTERVIEW SCHEDULE EMA PERSONAL

My name is Mpumelelo Ngwenya, I am a student at Bindura University of Science Education (BUSE) registration number B1129666, doing a Master of Science Education (MScEd) Degree in Geography. I carrying out a research to evaluate the effectiveness of EMA’s environmental policies on environmental conservation in Matetsi Ward. Your honest and truthful responses to the questions below will assist me to produce a document which will further assist all stakeholders in their endeavour to effectively conserve the natural resources in the ward.

1. Could you state your organisation’s name and its overall functions in relation to environmental conservation?
2. What is your specific role in sustainable environmental conservation?
3. What policy instruments, if any, are at your disposal in carrying out your environmental conservation mandate?
4. Are you involved in any conservation activities in Matetsi Ward? If so how often?
5. Are there any environmental degradation challenges you have met in Matetsi Ward?
6. How are you addressing (these) conservation challenges in Matetsi Ward?
7. Do you have any constraints in carrying out conservation programs in Matetsi Ward?
8. Are the villagers cooperating in your conservation efforts among them?
9. What do you do to those who degrade the environment in Matetsi ward?
10. Which other government departments or organisations do you work with in carrying out sustainable conservation activities in Matetsi Ward?

Thank you very much for according me time for this interview.