AN APPRAISAL OF A-ROCHA KENYA’S CHRISTIAN EFFORTS AND APPROACHES TOWARDS THE CONSERVATION OF NATURE IN KILIFI COUNTY, KENYA

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A thesis submitted in partial fulfillment of the requirements for the Award of Master of Arts Degree in Religious Studies of Pwani University

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DECLARATION

This thesis is my original work and has not been presented for the award of a degree in any other university

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This work is dedicated to my dear husband Mr. Nyale, my children Edgar, Prudence and Elly who stood with me during the entire study period.
iv

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I thank God for according me strength and good health from the start to the end of this research activity. I appreciate my University supervisors Prof. Stephen Muoki Joshua and Dr. Tsawe-Munga wa Chidongo for their continuous advice and positive criticism that enabled the improvement of the thesis. My heartfelt appreciation goes to my late father Ishmael Govi Dzombo, who never lived to see the completion of my MA degree: May his soul rest in eternal peace.
The Church is an institution for social change and has an obligation towards environmental conservation. This is because land and creation at large are precious resources for both the present and future generations. The church’s appreciation and thankfulness to the Maker for nature is seen by the way its adherents care for the environment. The study, ‘an Appraisal of A-Rocha Kenya’s Christian Efforts and Approaches towards the conservation of nature in Kilifi County’, uses ARK as a case study. ARK is an arm of A-Rocha International, (ARI), a Christian environmental conservation organization working in many countries of the world, notably the UK, USA, Czech Republic, Lebanon, Canada, India, Portugal, Nigeria, Ghana, Uganda and Kenya included. In Kilifi County, ARK is based in Watamu ward and Marafa ward in Kilifi-north and Magarini sub-counties respectively. Despite the efforts ARK has put in place with regard to environmental conservation, Kilifi County still faces a lot of environmental degradation caused by stone cutting and sand harvesting which renders several hectares of land with pits and devoid of vegetation cover. The study focused on the contribution of Christian faith on the conservation of the natural habitat in Kilifi County with reference to ARK. It was guided by Boff Leonardo’s Liberation theology and Paul Santmire’s Ambiguity theory. The Ambiguity that Santmire proposes is expressed in two motifs: the spiritual motif and the ecological motif. In the Liberation theory, Boff considers the merging of ecological and theological concerns because the elements that threaten the poor are the same elements that threaten the earth; thus a theology that protects both the poor and the earth- which he called Christian pantheism (everything in God; and God in everything). The study employed qualitative methodology to acquire primary data. Purposive, convenience, homogenous and
snowballing sampling techniques were used to identify respondents for interviews and focus group discussions. The study also utilized documentary analysis which was done by analyzing ARK’s publications like brochures, newsletters, magazines and minutes from environmental education seminars to establish the organization’s environmental conservation in depth. Guided by the objectives, the raw data was collated and arranged thematically.

ARK’s programs have picked up, but there is a challenge as the people have not totally embraced the importance of conservation of nature. Thus, as a strategy towards environmental conservation, ARK should involve more people to embrace their strategies of FGW, indigenous tree planting and introduce the *Faidherbia albida* tree so as to train them on bee keeping, hence diversifying their income. ARK could reskill the people with alternative vocational skills to widen their career scope as the case of A-Rocha Ghana.
TABLE OF CONTENTS

DECLARATION .................................................................................................................. ii

DEDICATION .................................................................................................................. iii

ACKNOWLEDGEMENT ................................................................................................. iv

ABSTRACT ...................................................................................................................... v

TABLE OF CONTENTS .................................................................................................... vii

LIST OF ABBREVIATIONS AND ACRONYMS ............................................................. xi

OPERATIONAL DEFINITION OF TERMS ..................................................................... xii

LIST OF FIGURES ........................................................................................................... xiii

CHAPTER ONE ............................................................................................................... 1

INTRODUCTION TO THE STUDY ............................................................................. 1

1.1 Introduction ............................................................................................................. 1

1.2 Background to the Study ..................................................................................... 3

1.2.1 Location of the Study and Target Population ..................................................... 5

1.2.2 Problem Statement ............................................................................................. 10

1.2.4 Research Questions ............................................................................................ 12

1.2.5 Justification of the Study ................................................................................... 13

1.2.6 Scope and Limitations of the Study ................................................................. 14

1.3 Literature review ................................................................................................... 15

1.4 Research methodology ......................................................................................... 25
1.4.1. Research Design ........................................................................................................... 25
1.4.2 Sampling Procedure......................................................................................................... 26
1.4.3 Primary Data Collection Techniques.............................................................................. 29
1.4.4 Data Analysis.................................................................................................................. 32
1.5 Conclusion......................................................................................................................... 33

CHAPTER TWO ....................................................................................................................... 34
A-ROCHA AS A CHRISTIAN ENVIRONMENTAL CONSERVATION ORGANIZATION ................. 34
2.1 Introduction........................................................................................................................ 34
2.2 History of A-Rocha............................................................................................................ 34
2.3 Activities and values of ‘A-Rocha’ ..................................................................................... 49
2.4 Beliefs.................................................................................................................................. 49
2.5 Conclusion.......................................................................................................................... 50

CHAPTER THREE .................................................................................................................... 51
CHRISTIAN AWARENESS ON ENVIRONMENTAL DEGRADATION .................................. 51
3.1 Introduction: ....................................................................................................................... 51
3.2 Poverty and population increase ....................................................................................... 51
3.3 Under- Development ......................................................................................................... 62
3.4 Ignorance............................................................................................................................ 69
3.5 Conclusion.......................................................................................................................... 75

CHAPTER FOUR...................................................................................................................... 76
Appendix 2 Certificate of ethical approval ................................................................. 125

Appendix 3 Letter of Introduction ........................................................................... 126

Appendix 4 Consent form for all respondents ......................................................... 127

Appendix 5 Interview guide for the farmers ............................................................. 128

Appendix 6 FGD guide for the indigenous tree planters ....................................... 129

Appendix 7 Interview guide for the pastors ............................................................. 130

Appendix 8 FGD for the Christian communities not affiliated with ARK .............. 131

Appendix 9 Interview guide for the forest guards .................................................. 132

Appendix 10 Interview guide for ARK staff ............................................................. 133
LIST OF ABBREVIATIONS AND ACRONYMS

ARI: A-Rocha International
ARK: A-Rocha Kenya
ASSETS: Arabuko-Sokoke schools and Eco-tourism scheme
ECO: Environment and Community
ECO-TOURISM: Environment and Community tourism.
FGD: Focus Group Discussion
FGW: Farming God’s Way
IBA: Important Bird Area.
IMF: International Monetary Fund
St: Saint
WCC: World Council of Churches
WCED: World Commission on Environment and Development
OPERATIONAL DEFINITION OF TERMS

Environmental conservation: Refers to the protection, preservation, management and or restoration of natural environments.

Environmental degradation: Refers to the transition of the environment from a higher quality to a lower quality.

Farming God’s way: A form of conservation agriculture which combines biblical ethics and discipleship training with practical farming techniques which can increase productivity, even in impoverished soils.

Mijikenda: The nine sub tribes of the coastal people composed of Giryama, Chonyi, Kauma, Jibana, Kambe, Ribe, Rabai, Duruma and Digo.

Muvera: The nine clusters of indigenous tree planters who are spread five-kilometer radius round the Arabuko Sokoke forest.

Quarries: An open pit from which building blocks are obtained by digging, cutting or blasting.

Sandpits: Pits from which sand for building was dug out.
LIST OF FIGURES

Figure 1. 1 Map of Kilifi county .......................................................... 6

Figure 2. 1 Asnail farmer from Ghana .................................................. 40
Figure 2. 2 Farming God's way in Kenya ............................................. 46

Figure 3. 1 Six endangered of birds found in Arabuko Sokoke forests ............ 56
Figure 3. 2 Golden rumped elephant shrew (Rhynchocyon chrysopygus) ........ 57
Figure 3. 3 Quarrying at Kanani in Watamu ......................................... 67
Figure 3. 4 Sand harvesting Ngomeni in Marafa ................................... 68
Figure 3. 5 Abandoned quarry at Kanani in Watamu .............................. 73
Figure 3. 6 Abandoned sand pit at Ngomeni in Marafa ............................ 73

Figure 5. 1 Farming God's way demonstration plot at Marafa ready for planting .... 91
Figure 5. 2 Faidherbia Albida treePhoto taken on May 2015 ................. 92
Figure 5. 3 Indigineous tree nursery at Mijomboni primary school ............ 97
Figure 5. 4 Mangrove tree nursery at Mida Creek ................................. 97
Figure 5. 5 Local tourists on suspended boardwalk at Mida Creek ............ 99
Figure 5. 6 Tree platform at Gedi ruins .............................................. 100
Figure 5. 7 Chicken rearing from one of the muvera members at chipande cluster ..... 101
CHAPTER ONE
INTRODUCTION TO THE STUDY

1.1 Introduction

Human beings’ survival on the earth’s surface is entirely dependent on the environment. The environment supplements human life with physical needs such as food, shelter, water and air. This necessitates the careful use of the resources on the earth’s surface to guarantee human survival (Bett, 2015). Increased need for access to these natural resources has led to massive degradation of the environment which has in turn resulted to the looming desertification as land is continuously becoming devoid of vegetation cover. The overall effect is in the interference of the rain patterns, vulnerability of domestic and wild animals, birds and other earth creatures. Further, it leads to the depletion of medicinal herbs as well as human deaths due to accidents as they sometimes fall into the abandoned quarries and sandpits.

The World Council of Churches; WCC, argued that human beings were created out of the dust of the earth and were given the mandate of taking care of God’s creation, but are not absolute masters of the earth; this calls for people to protect the resources of the environment with sincerity since they are co-creators with God (Christiansen, 2009).

This study is theological in the sense that it set out to determine how A-Rocha Kenya (ARK) conserves the environment in the Christian perspective. ARK is an international organization that is involved in environmental conservation in the Christian way; it uses the Bible to implement environmental conservation measures. The verses that the organization uses include; psalms: 24; 1-2, ‘The earth is the Lord’s, and all that is in it, the world and those who dwell in it. For He founded it upon the seas and established it
upon the rivers.’ This is the verse that prompted Peter Harris, the founder of ‘A-Rocha international’ to start the organization. The other verses that ARK uses include; Leviticus 25; 23, Exodus 12:10, 23:10-11, Psalm 24, 104, Isaiah11:9, Jeremiah 2:7, Revelation 11; 18 among others.

A-Rocha happens to be working in Kenya apart from the many other countries of the world like Portugal, New Zealand, Lebanon, UK, Uruguay, Singapore, Canada, Malaysia, Nigeria, Ghana, Zambia and Uganda and. ARK though an international organization, has an office in Kilifi County, specifically in Watamu and Marafa wards.

ARK opened its center in Kenya for the first time in 2002 at Watamu and named it as Mwamba Field Study Center, where they targeted five threatened habitats which were; Arabuko-Sokoke forest, Mida creek which was an important bird area (IBA), Gedi ruins, the River Sabaki estuary and the Marine Park. ARK engages in participatory rural appraisal through schools and community environmental education, so that the community is able to discover their potentials and resources and eventually conserve their environment (A-Rocha, 2014). The community is divided into nine clusters known as Muvera and each cluster meets once in a week to establish and manage their tree nurseries.

The study involved members who were participants of ARK in its areas of confinement which are Watamu ward in Kilifi North sub county and Marafa ward in Magarini sub county in Kilifi County. These members were farmers who do ‘farming God’s way’ from Marafa, pastors to whom ARK gave training them on the care for creation and the ARK staff all from Marafa. The other participants were Muvera cluster members who do participate in indigenous tree planting and forest enrichment. Three Christian
communities which are within the premises of ARK at Watamu, that is, Dongokundu Baptist church, St. John the Baptist Catholic Church and St. Stephen’s ACK church (Canon Mweri) were involved. ARK was studied as the unit of analysis.

1.2 Background to the Study

ARK settled in Watamu in 2002 mainly to rehabilitate Mida creek which is an important bird area (IBA). The study, ‘An Appraisal of A-Rocha Kenya’s Christian Efforts and Approaches towards the Conservation of Nature in Kilifi County, Kenya,’ was carried out so as to ascertain the suitability and applicability of the organization’s activities. The main goal of this organization is to create positive change in people’s attitude and behavior so as to bring about effective and sustainable conservation of God’s creation, the natural environment (A-Rocha, 2014).1 A Part from Mida creek, at Watamu the organization also targeted the Arabuko -Sokoke forest ecosystem which is also an important bird area (IBA) and one of the world’s biodiversity hotspot (Moyer, 2015), the Marine Park, Gedi ruins and the River Sabaki estuary; the core objective of the organization is restoring integrity to threatened habitats and species. This is because some species of trees and birds had been endangered by human activities of environmental degradation around and within those areas. The study identified this organization because it was the only Christian environmental conservation organization found within the study area. The organization trains pastors and the community on environmental conservation. ARK engages in participatory rural appraisal through schools and community involvement in environmental education so that community is able to discover their potentials and resources and eventually conserve their environment

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1 In a discussion with Kirao, one of the ARK staff on 24-4-2018 said that the organization’s main objective is to restore integrity to threatened habitats and species. However, he confessed that change takes time.
(ARK, 2014). This staff admittedly said that conservation is difficult since it involves changing people’s attitudes and behavior.

Kilifi County is experiencing significant environmental degradation due to human activities which include forest destruction, quarrying and sand harvesting.

The hazards of this degradation are evident which include lack of adequate rainfall due to deforestation which eventually might lead to severe desertification and loss of biodiversity, several hectares of land are left bare, and some with pits in which people might drown and also turning into habitats for mosquito breeding. People are acting ignorantly to the claim that there is no relation between forest and rain, not realizing that by destroying the forest they are destroying their own lives (Bett, 2015).

The World Commission on Environment and Development (WCED, 1990) warned that unless people change many of their life styles, the world might face unacceptable levels of environmental damage. The commission stated that humanity has the ability to make development sustainable to ensure the environment meets the needs of the present generations without compromising the ability of future generations to meet their own needs.

Though the industrial development has bestowed tremendous glory to human civilization, its by-products have had adverse impact on the environment, giving rise to acid rain and the greenhouse effect (Christiansen, 2009). Hence various religious and secular groups have expressed concern for nature, environment and ecosystems; this then compelled the churches to address the issue and come up with theological understanding.
Again, when the WCC met in Nairobi in 1975, as stated by (Christiansen, 2009), it affirmed that the church has to struggle for the ‘just, participatory and sustainable environment,’ as it argued that without a healthy environment there would be no use for justice and peace. This mandated the church in Kenya to seriously undertake to deal with environmental issues.

1. 2.1 Location of the Study and Target Population

The study was carried out in Watamu ward of Kilifi North Sub County and Marafa ward in Magarini Sub County in the larger Kilifi County as these were the ARK’s environmental conservation areas of focus; environmental degradation was highly experienced in these localities in the form of quarry, deforestation and sand harvesting.

The target population were ARK staff, local participants of ARK’s activities of indigenous tree planting at Watamu, volunteers who served as forest guards at Watamu, participants of Farming God’s way at Marafa, Christians within the vicinity of A-Rocha Kenya’s premises (offices) and five pastors from the five villages at Marafa whom ARK had trained on ‘care for creation’.
ARK works with Christian communities from all denominations who are engaged with 
Farming God’s way as an outlook and also in indigenous tree planting. Farming is 
mainly done on a large scale in Marafa, while indigenous tree planting is conducted at 
Watamu.

Ecological and environmental decay has in many ways, been caused by population 
increase which requires expanding infrastructure for urbanization (WCED, 1990). 
Clearing of indigenous trees for timber, digging of quarries for stone bricks and sand 
harvesting, all meant for construction works deteriorates the environment. Deforestation 
destroyed habitats of many animals and birds, important trees which are a source of 
herbal medicine are also destroyed. Quarrying leads to loss of wildlife and biodiversity 
as the whole ecosystem is destroyed. In addition, adjacent ecosystems may be affected
by noise, dust and pollution (Bett, 2015). Despite numerous campaigns waged by non-
governmental organizations against environmental and ecological degradation,
continued human activity still causes a threat to nature and human society in general.
Large pits left uncovered render land unsuitable for habitation due to the deformation of
landscape; worse still, when the pits get filled with water, they turn to be a health hazard
to people and domestic animals which may fall into these open quarries accidentally and
as a result sustain injury or death (Bett, 2015).

It can be argued that the problems evolving out of the apparently divergent goals of
economic development and environmental management are becoming increasingly
evident; global warming has caused the depletion of the ozone layer, and rapid
clearance of the tropical forests that has caused widespread land degradation. These
factors among others as hinted above represent most alarming environmental problems.
The environment must take its place as an integral component of the development
process to maintain the natural resource base (Campbell and Olson, 1991).

From a theological context, Lynn White in Religious Ethics and Environmental
Problems (see Jenkins, 2009) argues that Christianity bears a huge burden of guilty for
the global ecological crisis. According to White, the response to the crisis is religiously
grounded because ecology is deeply rooted in human belief about nature and destiny.
Harris suggests that conservation is a matter of faith by its nature because people treat
the world according to what they believe about it (Harris, 2000). Social and
environmental issues grew as secular rather than religious concerns; religious ecological
voices were few. Basically, the more Christian or Biblically oriented people became, the
less they became concerned about the environment (Shaiko, 1987).
Moyo and Ott (2002) noted that the Bible does not deal directly with the need of protecting the environment, because this problem never existed at the time when the biblical books were written; no chemicals destroyed the soil, there were no fumes from cars and aeroplanes to destroy the ozone layer, wild animals were a threat to humans, whereas today wild animals are at risk of extinction due to human activity. The world population was so low that shifting cultivation with its bushfires was not a threat to nature. He further argued that the Bible cannot offer literal answers to the burning environmental issues of today. This means that Christians need to re-read and re-interpret the scriptures in a new form that addresses contemporary issues of human society.

At the 1992 Rio de Janeiro Environmental summit, held by WCC, theologians agreed that there was need for the development of an eco-theology- a theology of wise use and management of the environment and natural resources; this needed to be taken seriously by churches throughout the world. This statement is informative to this research work as it indicates that environmental degradation is an international crisis which needs to be addressed specifically by the church worldwide. The church is the most influential non-governmental institution especially on issues of national interest, the role of the church can never be overemphasized (Moyo and Ott, 2002). Once Christians realize that the Bible speaks about wise utilization of the natural resources, they will realize that it is their duty to ensure that the beautiful environment is cared for. This could be the reason why ARK engages in training the pastors on care for creation and the community on environmental conservation. With the WCC address it meant that Christians were becoming increasingly aware of the environmental degradation, more so the earth, a
clear indication that Christian faith has much to offer and receive in this exchange about the future of life on this planet.

This study was set to analyze the various approaches of environmental conservation strategies ARK uses to conserve the environment as a way of educating the society on the need for liberating the earth from the various forms of environmental degradation human imposes on it.

In the African context, nature was sacred because Africans lived in a religious environment where natural phenomena were intimately associated with God (Mbiti, 1989). Mbiti further illustrates that every happening on the earth’s surface had spiritual meaning and were but God’s manifestations which were expressed by different communities in anthromorphic terms. Among the Zulu, thunder was associated with God’s merry making, while among the Agikuyu it was considered as the cracking of God’s joints as He walked by. Trees and grass had spiritual significance in the African world view; the fig tree for instance was considered sacred by many communities all over Africa and people prayed, sacrificed and gave offering around or under it. This made environmental conservation a way of life in Africa.

This study on environmental conservation in Watamu and Marafa wards in Kilifi County was mainly done with an aim of conserving the vast waste desolate lands resulting from man’s activities of deforestation, quarry and sand harvesting which were inevitable as they served as economic activities. However, as the World commission on environment and development (WCED) made it clear in 1987, environment and development must be in tandem, since development cannot exist in a deteriorating environment (WCED, 1990). This calls for the need to conserve the environment.
Initially, before Christianity appeared in Africa, the indigenous African man revered his environment (cf. Mbiti, ibid). White’s (1967) argument concurs with Mbiti’s, as well as Harris’ who suggests that conservation is a matter of faith because people treat the world according to what they believe about it. All these works elaborate that whatever man does on the environment is determined by his beliefs.

However, White cites the root cause of environmental decay as dominion theology of Christianity which insists that it is God’s will that man exploit nature for his proper ends. White gives a suggestion of an alternative religion but does not state clearly the right religion.

With White’s argument in mind on dominion theology, does Christianity have anything to offer in as far as environmental care is concerned? This is what inspired this research.

The World commission on Environment and Development cited the major causes of ecological and environmental degradation as population explosion that demands infrastructures for urbanization (WCED, 1990).

1.2.2 Problem Statement

Kilifi County experiences continued environmental degradation resulting from, quarrying and sand harvesting. Several abandoned quarries and sand harvested pits are seen on several hectares of land. (Hilson, 2002) observed that miners abandon pits and trenches; thus landscapes remain scarred with potholes and devoid of vegetation cover.

(Moyer, 2015) comments that the theological basis of ARK’s work is rooted in the conviction that creation belongs to God and is therefore good, as described in Genesis 1. The concept of stewardship, or of being custodians of the Earth for God, was emphasized, though in a context of humility rather than domination. She further argues
that Jesus’ work of redeeming the world’s sin also inspired creation care work, she adds, ‘God loved us and the creation so much that He sent Jesus into this world to be part of the creation, to experience being part of the creation and to redeem the creation through death and ultimately the resurrection which gives promise of new life of the renewal of all things’.

Despite the efforts A-Rocha Kenya has put in place with regard to environmental conservation, cases of environmental degradation in the County are plenty especially in Watamu and Marafa where several hectares of land have been rendered useless with abandoned quarries, sandpits and devoid of vegetation cover. Worse still, when these pits are filled with water, they turn to be a health hazard to humanity as some may turn to be mosquito breeding zones and at times people may drown, as the alarm which was raised on the 2nd of May 2015, in Kwale County where four children were buried alive as they swam after quarry walls collapsed, as reported by Tobias Chanji (standard digital 2nd May 2015) where he said, ‘…many lives have been lost in quarries left open after sand harvesting, four children were Friday killed in such a quarry in Kwale county’. This proves that these forms of environmental decay are quite detrimental. Preceding studies on the significance of ARK in the study area with regard to environmental degradation indicated deforestation and biodiversity decline (e.g., Maundu, 1993; Sinclair et al., 2011, Moyer et al., 2012, Moyer, 2015). A-Rocha Kenya engages the communities in the study area in environmental education, FGW and indigenous tree planting as strategies towards environmental conservation.
General Objective

The aim of this research was to examine Christian input towards environmental conservation with reference to the presence of abandoned quarries in the study area using A-Rocha Kenya as a case.

1.2.3 Specific Objectives of the Study

1) Describe the history, beliefs, values and activities of A-Rocha as a Christian environmental conservation organization.

2) Establish whether Christians in Watamu and Marafa wards of Kilifi County are informed of the environmental degradation and its effect.

3) Establish whether Christians affiliated with ARK consider environmental conservation as their obligation.

4) Determine the influence of ARK as a Christian conservation organization in the community.

1.2.4 Research Questions

What are the beliefs, values and activities of A-Rocha as a Christian environmental conservation organization?

1) How informed about environmental degradation and its effect on lives are the Christians in Watamu and Marafa wards of Kilifi County?

2) How are the Christians affiliated with ARK informed of environmental conservation as their obligation?

3) What influence has ARK created in the community as a Christian conservation organization?
1.2.5 Justification of the Study

Vast lands in Kilifi County have been made desolate and devoid of vegetation cover due to environmental degradation brought about by human activities of quarry, deforestation and sand harvesting; forthright Christians ought to remember that there will be judgment for ecological sin: ‘The time has come to destroy those who destroy the earth!’ (Rev.11:18b).

However, A-Rocha Kenya as an environmental conservation organization has initiated environmental conservation activities that may help in reclamation of these desolate lands so as to be resourceful to the society. A-Rocha Kenya was of paramount importance in this research because it was the oldest faith-based environmental conservation organization in Kenya (Moyer, 2015) and it happens to be found within the study area. Again their activities are cost-free such that even the vulnerable members of the society can participate. Activities such as planting of indigenous trees and farming God’s way done by the organization can be viable on these desolate lands.

Activities like indigenous tree planting can be done in the abandoned quarries after which birds can nest; wide-scale establishment of indigenous herbs, promotion of fresh air in the environment and promotion of rain patterns. More so, after the indigenous forests have been established, these desolate lands may turn to be tourist attraction sites like Bamburi and Gosana nature trails in Mombasa and Kilifi counties respectively. Farming God’s way can be applied on the abandoned sandpits and this can promote food security for the locals; hence improving their living standard.
Again, if these activities are applied and prove to be viable, it will be a way of educating the community on sustainable development and people from within and beyond might earn how to develop a positive theology with nature.

Finally, the study provides first-hand information on the contribution of ARK in environmental conservation in the Christian way in Watamu and Marafa wards of Kilifi County. It also brings into light the practices that ARK has adopted and propagated in regard to nature conservation. This study, therefore, may aid in giving solutions to significant environmental problems in the entire Kilifi County and beyond; it may significantly inform policy making on conservation and environmental protection as a whole.

1.2.6 Scope and Limitations of the Study

This study on ARK’s Christian efforts and approaches towards the conservation of nature in Kilifi County was confined to Watamu, Kilifi-North and Marafa, Magarini; these are two wards in the respective Sub-Counties. The researcher selected these areas because they were ARK’s areas of operation and focus. Financial constraints were another issue that led to the researcher to confine herself to those areas, though the research would be beneficial to areas even beyond the scope. Much attention was paid to the activities done by ARK which are geared towards environmental conservation. The study also analyzed the causes of environmental degradation in Watamu and Marafa and the efforts made by ARK with regard to environmental conservation in those areas.

There also cropped up other limitations which were beyond the researcher’s control such as some respondents were unwilling to participate in the discussion and just left
especially at Dongokundu Baptist church. However, those who remained up to the end were eighteen and that is what kept the discussion moving.

1.3 Literature review

General Overview

Literatures reviewed in this section were closely related to the area of study. Literature on environment is diverse. The literatures in this section were reviewed thematically and guided by the objectives of the study under three general themes. These three themes were an analysis of environmental degradation and its effect, an analysis of Christian obligation towards environmental conservation and the community’s response towards environmental conservation concerns.

Analysis of Environmental Degradation and its effect

Lynn White in (Jenkins, 2009) argued that Christianity bears a huge burden of guilty for the global ecological crisis; this author conceives the resolution of the environmental degradation in terms of a religious transformation, although she does not address the necessary religious transformations required. This work is positively informative to this study as they indicate the fact that environmental degradation may be considered as a Christian problem. Indeed along this line, it follows that Watamu and Marafa wards are prone to environmental degradation yet Christianity is in abundance.

(Gottlieb, 1996) and (Msafiri, 2007) argued that environmental degradation is not only a danger to health, an economic catastrophe and destruction of the aesthetic beauty but also impious, sinful and an offence against God’s will. This is due to the destruction of the God given environment of which humanity have been commanded to take care. They further argued that human activity affects the future of the earth community.
Some of the ever-increasing human activities are deforestation as a result of logging for charcoal, carpentry and curio carvings, as well as building, quarrying and sand harvesting for both domestic and commercial construction which result in severe environmental degradation.

Human beings since ancient times have been using poles from the forest as raw materials for shelter especially in the African context; however, due to population increase which has led to a high demand for the shelter, firewood, and carpentry, there has consequently been an upsurge in the clearance of forests. This poses a threat to wild animals and birds as well as human beings due to inadequate rainfall which lowers agricultural production.

These literatures are relevant and insightful of the nature of environmental degradation on the African setting, and most probably in our area of attention, Kilifi County, and particularly Watamu and Marafa wards. It is against this background that ARK’s environmental conservation strategies are studied as remedy to the situation.

(Moyo et.al, 2002) argued that poverty in the rural areas places undue burden on the sustainable use of resources. According to them, the failure of the poor to produce more inhibits their abilities to acquire productivity enhancing measures. This literature is important in this study as it gives a hint of one of the major contributing factor to environmental degradation in Watamu and Marafa in Kilifi County as will be observed later in this study. Moyo’s observations are central to this study as they will guide the study in relating the suitability of ARK’s environmental conservational activities in its operational areas.
An analysis of Christian Obligation towards environmental conservation

The WCC (World council of churches) environmental summit in 1992 having seen the environmental decay, brought into light the idea that there was need for the development of an eco-theology, which would embrace wise use and management of the environment; this would be taken seriously by all churches worldwide (Moyo et.al, 2002) This gives an insight on the responsibility of the church towards environmental conservation. In this study, it will guide in the identification of the church’s current position with regard to environmental conservation in Watamu and Marafa.

(Getui, 1993) and (Obeng, 1999) argued that for any tangible results to be realized towards a healthy environment there is need for individual and collective effort. The role of each individual Christian is essential. According to them churches are awareness creation centers which must educate their congregations on individual responsibilities towards the environment. They insist on the church’s role in environmental conservation as vital. Churches are supposed to teach and expect their members to recognize and appreciate the providence of God. Obeng asserts that destroying the environment is sinning against the cosmic dimension of creation and redemption. These literatures are of immense importance in this study because of the ongoing environmental degradation experienced in Watamu and Marafa in Kilifi County. These literatures will guide the study in identifying the church’s responsibility towards environmental conservation.

(Nyamweru, 2003), in her studies observed that the Kaya (homestead or villages among the Mijikenda) forests were not easily encroached upon for purposes of deforestation since they are believed to be spiritual dwellings. She learned that once the forest is disturbed through the activities of deforestation, the trespasser would suffer seriously
until he/she pays a certain fine to the elders which included buying special clothes for them to conduct a cleansing ceremony for purposes of healing that individual. This has made the kaya forests the only remnant of the indigenous forests along the Coastal strip. Similar observations are given by (Adongo, 2014), who concedes that environmental conservation along the Coastal strip of Kenya is emphasized on the Kaya forests only by the Kaya council of elders for purposes of religiosity. Adongo further argues that herbal medicine among the Mijikenda is still highly valued. These texts are informative to this study in that they give a frame of reference for the study due to the aspect of conservation which is core to this study as the kaya elders serve as role models for the church in environmental conservation.

(Ayre, 2013) in another WCC summit on ‘Christian faith and earth conference’ held in South Africa, argued that since mission is core to the church’s self-understanding; the church should now embark on eco-mission, or mission to the earth. According to Ayre, the huge gap between rhetoric and action should be closed down during this crucial time of environmental crisis. His emphasis was the church’s engagement in practical ways in eco-mission. Ayre further argued that rhetoric does not necessitate action. This assertion gives this study impetus as it shades more light on the exact obligation of the church in Watamu and Marafa with regard to environmental conservation. Again, it serves as a guide to the study in making a concrete analysis of ARK’s environmental conservation strategies in its areas of confinement.

Moyo further argued that Christians fail to understand the concept of dominion which God intended from the beginning, that man is not supposed to do his will on the environment but to maintain it as a way of respecting God. She asserts that man is a steward not an absolute master of the environment. He is supposed to keep the creation
and cultivate the land as per the will of his creator (Gen: 2:15). She therefore, recommended the church to be at the fore front whenever God’s creation is endangered by sounding a prophetic voice to the society. She recommends the churches to work in partnership with governmental, non-governmental and independent organizations, political parties, groups and programs dedicated to environmental sustainability such as those sponsoring tree planting days and agricultural shows. Moyo’s suggestions and recommendations are quite relevant to this study, since they focus on the work and direction of one such group.

**Community’s response towards environmental conservation concerns**

(Maundu, 1993), (Infield & Namara, 2001), Sinclair et al (2011) suggest that the tendency towards conservation is more noticeable in communities that have received community conservation programs and incentives. These programs however, are not Christian or church initiatives. With the fact that Christianity is in abundance in Kenya and the entire culture highly receptive to spiritual ideas (Moyer, 2015), Kilifi County and Watamu and Marafa wards for that matter would not be exceptional; surprisingly, environmental degradation is on the increase in these areas without remedy.

Private investors and the local people destroy or deplete the very natural resources needed for the survival of both the present and future generations in these areas. Animals are rendered vulnerable as their habitats are destroyed making them prone as prey and some of them becoming extinct, thus crippling the rich tourism sector in the county. This literature is important as it will highlight the appropriateness of the activities of ARK and their efficiency in their areas of operation.
(Moyer, 2012), points out that ASSETS beneficiaries must participate in environmental education and conservation activities as a requirement from their sponsor (ARK). She further notes that they must refrain from illegal harvesting from the forest.

Though the Arabuko-Sokoke forest near Watamu is the largest remnant of a vast coastal forest containing rare and endangered species including Golden Rumped Sengi, the Sokoke Scops Owl and the Spotted Ground Thrush; the forest is threatened by illegal harvesting of trees (Moyer, 2015). These literatures are vital as they highlight on the activities of ARK in the study area; however, their major focus is deforestation and biodiversity loss.

1.3.1 Theoretical Frame work

Background

The study was informed by ambiguity theory proposed by Paul Santmire (Santmire, 1985) together with Liberation theology propagated by Boff Leonardo (Boff, 1995).

Ambiguity theory was proposed by Paul Santmire in 1985 in his works, ‘in the travail of nature’ ‘The Ambiguous Ecological Promise of Christian theology’. Santmire asserts that the theology is built upon two motifs; namely the spiritual motif and the ecological motif (Santmire, 1985:11). Accordingly, the spiritual motif expresses a religious worldview, if not hostile to the natural world, is least concerned with its state of existence. The motif is predicated on a vision of the human spirit rising above nature in order to ascend to supra-mundane communion with God. According to Santmire, the spiritual motif originates from the metaphor of ascent. The metaphor of ascent is inherently anti-ecological; Santmire asserts the metaphor using the image of an ‘overwhelming mountain’. The goal in this metaphor is to rise above the earthly world
towards the ethereal, supernatural realm of pure spirit. It is when the metaphor of ascent is continuously manifested in Christian theology, that it forms the spiritual motif. In the ascent metaphor, it is upwards heading to the landless, non-material realm of spirit. It is derived from the Biblical account of Moses at Sinai. ‘When Moses went up on the mountain, a cloud covered the mountain, and the glory of the Lord settled on Mt. Sinai’. For six days, the cloud covered the mountain, and on the seventh day, the Lord called Moses from within the mountain. To the Israelites the glory of the Lord looked like a consuming fire on top of the mountain (Exodus 24: 15-17). This metaphor creates a realm that separates human beings from the rest of creation; placing human beings higher than the rest of creation, hence are bound to share the heavenly glory.

According to Santmire, this view conceptualizes Christians as seeing the non-human world as nothing more than a resource at their disposal; and thus Christians alienates themselves from the material world and nature. This metaphor therefore, brings the idea of rising above and beyond the world to enter communion with God who is thought of as pure spirit.

On the other hand, the metaphor of fecundity, just like that of ascent, also arises from an experience of the overwhelming mountain, but this metaphor is inherently ecological. A person may seek greater religious consciousness and communion with the divine through ascent to the top of the mountain. The metaphor uses the Biblical story of Moses again, where he went up the mountain; looked down upon the Promised Land and enjoyed the beauty of the land that God had created and given to them. Here, though the human being is up in union with God, he still enjoys the beauty of the land and sees God very much within the biosphere. This now is the metaphor of fecundity in the ecological motif. The distinction between these two metaphors is dependent on where man centers
his thoughts. Where as in the fecundity metaphor there is ascent, it is from such heights that man surveys all directions, seeing one’s own soul in every dimension of the material world below, and appreciating them as God’s created things.

Finally, in the metaphor of migration to good land, Santmire sees it as forming the ecological motif. The metaphor of migration to good land is rooted in the individual or community’s identity with a land experience. In the Bible, this metaphor is rooted in the book of Deuteronomy, where Moses led the Israelites to the Promised Land, which they consider as their land and their identity. In this metaphor, one’s life, spiritual or otherwise, is always rooted in the primary experience of the human world. Unlike the metaphor of ascent, in this metaphor one’s spiritual experience will be located not apart from nature, but amid nature, surrounded by the creatures of the earth, and one’s identity is given within the land experience.

The ecological motif according to Santmire expresses the human spirit rootedness in the world of nature as discussed above, and on the desire of self-consciously embodied selves to celebrate God’s presence in, with and under the whole biophysical order (Santmire, 1985:11). The motif originates from two metaphors as explained above, the metaphor of fecundity and the metaphor of migration to good land.

The ambiguity that Santmire proposes is expressed in two parallel strands; one is that of human spirit rising above the mundane level of life in order to commune with God and the other human spirit is to envisage human life as much more embedded in the natural world and finding God’s presence very much within the biosphere. In other words, one motif is not leaned towards ecological direction and the other motif is more ecological friendly.
Using Santmire’s ambiguity theory, the study looked at how ARK, a Christian environmental conservation organization, has addressed the environmental degradation issues of deforestation, quarrying and sand harvesting in Watamu and Marafa and how the participants of *Farming God’s way* and indigenous tree planting have responded to the environmental issues, and finally, how the church as a whole respond to environmental issues. The two motifs have been used as the yard stick to determine how Christians respond towards environmental problems of today. People could either take practical action towards ecology as what ARK is currently doing or ignore. There are instances where a pastor feels that if he continues preaching on environment, he might lose his believers since they come to church thirsty for spiritual quenching. Such a pastor will be leaning towards the spiritual motif, whereas when a believer says that the forest is the only precious resource God has given them and thus it is upon them to take good care of it, such a believer would be leaning towards the ecological motif. This is the ambiguity found within the church theological circles.

Liberation Theology is also employed to complement Santmire’s ambiguity theory for the current research. Propounded by Leonardo Boff (Boff, 1995) in ‘Ecology and Liberation’, liberation theology is the cry of the poor for life, liberty and beauty and the cry of the earth growing under oppression because it is not just species and ecosystems that are threatened but the earth as a whole is sick and needs treatment and healing. Although liberation theology is not ecologically grounded, but is rather socially and politically oriented, Leonardo argues that by oppressing the poor and the weak results in the exploitation of nature. Consequently, Leonardo proposed an alliance between the earth and human beings, in a brotherly and sisterly relationship and with a type of
sustainable development that will respect the different ecosystems and guarantee future generations a good quality life.

According to Leonardo, theologians must speak of ecological sin with reference to biocide and ecocide as well. In his works on ecology and liberation, he proposes a holistic ecology (Leonardo 1995: 7,11), in which he called for the merging of ecological and theological concerns i.e. elements of a liberation theology that protected the poor and the earth; which according to him include Christian pantheism (‘everything in God, God in everything’).

**Implications on the study**

Using Liberation theology, the study looked at how the environmental degradation is threatening the earth and ecosystems at Watamu and Marafa wards and how ARK and the church are responding towards it. As ARK struggles to liberate the environment at Watamu and Marafa, the study examines the efficiency of the organization in delivering their environmental conservation strategies and the community’s response towards environmental conservation.

Santmire’s ambiguity theory and Leonardo’s Liberation theology were vital in this research because of the environmental degradation that takes place in Watamu and Marafa wards in Kilifi County where the earth is highly threatened by the aspects of environmental degradation. In Santmire ambiguity theory, out of the two motifs were gleaned the most influential factors with regard to people’s attitudes towards environmental issues in Watamu and Marafa wards in Kilifi County.

Liberation theology advocates for earth treatment and healing- the land needs treatment and healing so that it can be made useful again for the present and future generation.
This calls for responsible management of human activities affecting the natural environment to ensure the conservation and preservation of natural resources and values, this is because liberation theology itself aims at a type of sustainable development that will respect the different ecosystems and guarantee future generations a good quality life. According to Leonardo, therefore, humans should treat nature as one of their own not as a separate entity.

In conclusion, therefore, Santmire’s ambiguity theory will lead this research in getting the people’s attitudes and values with regard to environmental concerns, while on the other hand, Liberation theology will guide this study in examining the efficiency of ARK’s environmental conservation strategies with regard to the question of environmental degradation.

1.4 Research methodology

1.4.1. Research Design

The method that has been adopted is the qualitative method; this is found to be applicable to this research in particular as it uses oral and non-numerical data. The goal of the study was to analyze the various activities ARK engages in as an environmental conservation organization in Watamu and Marafa. The researcher collected both primary and secondary data. Primary data was collected from the field through interviews, participant observation and focus group discussions. Documentary study was used to obtain the secondary data from published materials of ARK which included brochures, Newsletters and magazines. The researcher interviewed four farmers at Marafa who participate in Farming God’s way. The researcher also interviewed the five pastors who were trained on ‘care for creation’ at Marafa, four of the A-Rocha Kenya’s staff and two
community volunteers who served as forest guards in the Arabuko-Sokoke forest at Watamu. Since the community participants of ARK at Watamu had been divided into nine clusters, the researcher had focus group discussions with two of the nine clusters. The researcher also had focus group discussions with three Christian communities from three churches that are close to ARK’s premises who do not participate in the conservation activities directly but due to their being in close vicinity to ARK’s premises, the researcher thought it convenient to interview them. The researcher used field visits to observe A-Rocha Kenya’s activities in their areas of operation.

1.4.2 Sampling Procedure

Sampling was fundamental to this study as the researcher dealt with a large population in a bigger area.

In selecting the required sample, purposive, convenience, homogenous, and snowballing sampling techniques were employed.

**Purposive Sampling Technique**

Purposive sampling technique was applicable to the key informants who would give the necessary data for the study (Babbie, 2007; Mugenda and Mugenda, 1999). These were the five pastors whom ARK trained on care for creation all from Marafa; two clusters of indigenous tree planters all from Watamu.

The pastors are the earmarked people by ARK because they handle big congregations and they meet their members on weekly basis. The organization will rely on these people to spearhead the information of conservation in future. The Muvera clusters were sampled because they constitute people who live on a five-kilometer radius round the Arabuko-Sokoke forest, and ARK had identified these people as the ones who are
mostly involved in forest destruction through logging for charcoal, timber, building polls and carving. The organization thought it better to educate these people so that they could be role models in the society.

**Homogenous sampling**

This sampling technique is used to sample cases that exhibit similar characteristics to enable in depth study of a given research work (Mugenda, 2008). The forest guards were sampled using this technique because of their passion for the forest. The passion for the forest made ARK to earmark them and as such the organization gives them incentives because nobody has employed them. These people give information on the daily occurrences in the forest to ARK with regard to deforestation and poaching of wild animals; in turn ARK takes the initiative of informing the KWS officials for action. Therefore, the researcher thought it wise to sample them so as to know the extent at which the Arabuko-Sokoke forest and the mangrove at Mida creek are degraded, the contributing factors towards its destruction and the possible remedy if any.

**Convenience sampling technique**

Convenience sampling technique was applicable in selecting the Christian communities who were not participants of ARK but their churches were close to the premises of ARK’s offices and therefore the researcher assumed that these Christian communities were well informed of the organization’s activities. These were sampled because since they are close to the premises of the conservational organization so they could most probably be aware of the conservational techniques being applied, and, if so, what is their input towards environmental conservation? These communities were Dongokundu
Baptist church, Canon Mweri (St. Stephen’s ACK) church and St. John the Baptist catholic church.

**Snow balling sampling technique**

Apart from purposive and convenience sampling techniques, the other sampling technique that the researcher employed was snowballing to determine the different experts in that field of study (Babbie, 2007 p. 184; Kumar, 2005 p.179). Through snowballing, an identified staff member of A-Rocha Kenya after being interviewed in his/her area of specialization, directed the researcher to another staff who was a specialist in another area of specialization related to the researcher’s area of study, snowballing also was applicable to the farmers in Marafa who do ‘farming God’s way’. Here, the researcher interviewed four farmers who do farming God’s way in Marafa. In snowballing, the researcher was able to include four of the A-Rocha staff, one in Marafa and three in Watamu. These ARK staff would give a detailed account of the organization’s environmental conservation activities.

The organization trained the farmers because accordingly they were degrading the environment by destroying the forest at an alarming rate, hence making wildlife vulnerable. In ignorance, the farmers were inadvertently affecting one of the major sources of Kenya’s foreign exchange.

Presumably, therefore, once they were recruited into the sub-culture of ‘Farming God’s way’, they would adopt skills which may lead to reduced forest encroachment for farming.
1.4.3 Primary Data Collection Techniques

The researcher made a maximum of eight visits to the sites where A-Rocha Kenya’s activities were carried out; this was due to financial constraints as the sites were far away from her area of residence and the sites themselves were far apart. Primary data was collected through interviews, focus group discussions of 8-15 members; though other focus group discussions had more than 15. The researcher made prior consultations of the members before the actual discussion day.

Participant Observation

Participant observation was adopted as an approach since it is the fundamental base of all research methods in social science (Babbie, 2007). The researcher attended two seminars in Marafa, one of which was conducted by ARK for the farmers and Pastors in May 2015; the other one was as a result of a collaborative effort between the ARK and Anglican Development Services (ADS) in April 2016. The researcher also visited the FGW plots at Marafa. Finally, the researcher attended a one day environmental education seminar at Watamu in April 2017, visited the ARK Eco-tourism facilities and the tree nurseries at Watamu in July 2017.

Interviews

The researcher conducted sixteen interviews, which were carried out as follows: Four participants in ‘Farming God’s way,’ five pastors who were trained on ‘care for creation’ and one member of the A-Rocha Kenya staff; all these people were from Marafa. The researcher then interviewed three more members of the A-Rocha Kenya staff, one priest from Dongokundu Baptist church who had excused himself during the
FGD and finally the two community volunteers who served as forest guards in the Arabuko-Sokoke forest, all from Watamu.

**Focus group discussion**

The researcher conducted five focus group discussions which were done to two of the nine clusters that were mainly involved in indigenous tree planting at Watamu. The researcher used the two clusters mainly because of accessibility, since the nine clusters are spread all round the Arabuko-Sokoke forest which covers an area of 420sq.km (A-Rocha, 2014). Again, the two clusters of Chipande and Mijomboni are the ones found within the study area. There were also three other focus group discussions in which three Christian communities at Watamu were involved; these discussions were done to the church elders and youth leaders with their priests/pastors.

Proceedings were recorded using tape recorders, camera and paper work, but with prior permission from the interviewees. The researcher remained predominantly an interviewer and an observer throughout the interviews and the discussions while recording observations (Babbie, 2007 p. 257; Mugenda, 2008).

**Ethical consideration**

The researcher sought ethical review certificate from the ethical review committee (ERC) of Pwani University. Participants received and signed an informed consent form that clearly described their rights or otherwise, to participate and which further explained their rights to withdraw before their responses were recorded.

All the information in the study was provided to the respondents. Only competent individuals of legal age (18 years and above) were used as respondents. Interviews and focus group discussions were used in data collection.
Table 1.1 Summary of distribution of respondents

<table>
<thead>
<tr>
<th>Study Area</th>
<th>Respondents selected</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watamu</td>
<td>Indigenous tree planters</td>
<td>Chipande cluster 15 people. Mijomboni cluster 22 members.</td>
</tr>
<tr>
<td></td>
<td>Forest guards</td>
<td>2 members</td>
</tr>
<tr>
<td></td>
<td>ARK staff</td>
<td>3 members.</td>
</tr>
<tr>
<td>Marafa</td>
<td>ARK staff</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Pastors</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Farmers</td>
<td>4</td>
</tr>
</tbody>
</table>
Table 1.2: Distribution of key informants of the Research.

<table>
<thead>
<tr>
<th>Study area</th>
<th>Respondents selected</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watamu</td>
<td>Indigenous tree planters</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Mijomboni cluster</td>
<td>22</td>
</tr>
<tr>
<td>Marafa</td>
<td>Pastors</td>
<td>5</td>
</tr>
</tbody>
</table>

**Documentary study**

Documentary study was conducted by analyzing minutes and information from the ARK’s seminars, brochures, newsletters and magazines to establish their environmental conservation activities in depth. Documentary study was necessary because in the documents may contain the aims, objectives, aspirations and even activities of the organization.

**1.4.4 Data Analysis**

Data collected was first edited to ensure accuracy and completeness of data. Because it was qualitative data, editing was done at the field through the researcher recalling contexts and correcting the contents (Kumar, 2005). Tape recorded texts were retrieved through replay and written down in the native language; thereafter, they were translated into English with the nearest equivalence of meaning and sense (Nida, 1954).

Field notes, discussions, observations and comments were evaluated at the field. Thereafter, the collected data was arranged systematically into reduced sets of themes. It was then synthesized thematically to establish the community’s view on
environmental conservation in relation to A-Rocha Kenya’s activities of indigenous tree planting and ‘Farming God’s way.’ Thematically, the collected data was geared to determining the importance of A-Rocha Kenya’s activities of indigenous tree planting and ‘Farming God’s way’ in environmental conservation, hence its perceived impact with regard to environmental conservation in Watamu and Marafa wards of Kilifi County.

Finally, the analyzed data was aimed at determining the church’s position in relation to environmental conservation with regard to ARK’s presence.

1.5 Conclusion
This chapter gave an outline of how the study was carried out in the two respective areas, Watamu and Marafa wards in Kilifi County. The method the researcher used was qualitative. The study employed purposive, convenience, homogenous and snowballing as the sampling techniques. In data collection and utility, the study utilized both primary and secondary data. The researcher reviewed appropriate literatures relevant to ‘nature conservation’. Finally, the collected data was analyzed thematically based on the four broad objectives with ARK as a case study.
CHAPTER TWO
A-ROCHA AS A CHRISTIAN ENVIRONMENTAL CONSERVATION ORGANIZATION

2.1 Introduction
This chapter aims at establishing the conservation efforts of A-Rocha as an international Christian environmental conservation organization. The chapter was studied as a unit of analysis which will guide in the building of the entire thesis. It discusses the history, beliefs, values and activities of the organization. In addition, some selected projects of the organization in Kenya and other countries of the world are discussed.

2.2 History of A-Rocha
A-Rocha is an international Christian environmental conservation organization. It was started in 1983 by Peter Harris, an Anglican Church minister who had gone to Portugal from UK. He had been sent by an organization known as Cross Links to evangelize. Harris was a bird observer/watcher. While in Portugal, Harris noted the Algarve estuary which was a wetland as well as an important bird area. Many birds migrated to this place to feed and breed and migrate to other places. Since tourism was rich in Portugal, Harris saw the threats of these birds as he feared that Algarve estuary would soon be converted to a tourist attraction site and the birds would thus have no place to stop and feed, breed before proceeding with their migratory journeys to other parts of the world. Harris argued that it was not God’s plan for the birds or any of His creation to suffer because ‘… all which He created, God looked at everything at the end and saw it was good.’ Harris therefore resolved to agitate for the conservation of the Algarve estuary ‘in the Christian way’ so that it remains an important bird area. Harris had to face a court of law
for several years but in April 2016, the verdict was given in his favor. Conservation work started in the Portuguese Algarve in 1986 where the first field study center, Cruzinha, was opened. As international interest grew gradually, A-Rocha international was formed in 2000. The name ‘A-ROCHA’ is Portuguese in origin and means ‘THE ROCK’ (ARI, 2011). By 2004 A-Rocha had national organizations in fifteen countries of the world.

Among the countries which A-Rocha works include: Australia, Czech Republic, Brazil, Bulgaria, Canada, Lebanon, Switzerland, New Zealand, France, USA, Finland, Peru, Netherlands, India, Portugal, UK, Ghana, Nigeria, South Africa, Uganda, Kenya and many others.

A-Rocha in other countries

This section discusses an overview of the activities and projects of A-Rocha in other countries of the world. This will help to reflect the activities of the organization in Kenya.

A] A-Rocha Brazil

In Brazil A-Rocha mobilizes communities and churches to respond to the environmental challenges in their neighborhood through training workshops. With funding from Tearfund, the Network transformation runs in eight cities in the north and north-east of the country to raise awareness and understanding of environmental issues. This enables communities to initiate practical conservation projects (ARI, 2017).

Through a collection of Christian NGOs, A-Rocha Brazil works with the churches to bring pressure to the government to build sustainable public policies and implement proposals on sustainable development.
B] A-Rocha Portugal

A-Rocha’s first field study center, Cruzinha, in Algarve was opened in 1986 close to Rio de Alvor (ARI, 2011). The surroundings and the adjacent Alvor estuary are particularly rich in wildlife and access to dunes. A-Rocha Portugal is researching on wildlife and habitats of southern Portugal in order to aid their protection. Single species study included Kenfish plover *Charadrius alexandrinus* and the Little tern *Sterna albifrons* on the Alvor dunes with local school children involved in roping off the nesting areas and designing information boards. Botanical monitoring and the collection of plant specimens around the Rio de Alvor provides crucial scientific evidences of habitat destruction which helped the A-Rocha Portugal win a legal action in 2012, aimed at protecting the outstanding estuary from inappropriate development (ARI, 2015).

C] A-Rocha Lebanon

In Lebanon, A-Rocha works in the Aammiq marsh. Aammiq marsh is a major inland wetland which has been saved from drainage and enlarged in size by A-Rocha Lebanon through mobilizing the local farmers, landowners and the villagers. This was achieved through field monitoring of 3000hrs over a three-year period carried out by A-Rocha Lebanon in partnership with the society for the protection of nature in Lebanon. This led to the declaration of eleven new important bird areas by Bird Life international.

Apart from the above activities for A-Rocha Lebanon, the organization also started the Shouf Cedar Reserve, the Skaff estate and the eco-restaurant, Tawlet Ammiq restaurant. The profits from the estate and the eco-restaurant help to fund the management of the Aammiq wetland and the Cedar Reserve. The wetland and the reserve are homes to thousands of wildlife and tens of thousands of migrating birds.
D) A-Rocha Nigeria

A-Rocha international’s faith based nonprofit conservation organization in Nigeria, *Eden Creation Care initiative* is based in Jos in Nigeria. This organization helps communities to protect areas important for their biodiversity through educational programs and scientific research (ARI, 2017).

A-Rocha Nigeria runs two projects in the country through the Eden creation care initiative. These are: Renajj fish farm and the Mushere forest (Dulu area of Kadim in Mushere land) (ARI, 2017). By 2017, A-Rocha Nigeria had trained almost 80 local farmers in ‘Farming God’s way’ and formed conservation clubs in seven schools.

In 2017, Peter Harris visited the team in Jos area and held two weeks lectures and speaking in universities, churches and seminaries and one of the universities has developed a sustainable management plan for its extensive campus (ARI, 2017). The team is working with forest communities in Taraba state and aims at shaping the landscape.

**Renajj Fish farm**

Renajj fish farm is a small area of well demarcated privately owned land, covering 80 hectares. It is on the fringes of the Jos metropolis. The most significant habitat there is wetland. It holds numerous species of herons and waders. Gulls, terns and ospreys also visit the area. A-Rocha Nigeria thought that appropriate management and protection of this area could increase species diversity (ARI, 2017).

**Mushere Forest**

Mushere forest has an area covering about 40-50-kilometer square. The aim of this project is to provide effective protection for one of the northern Nigeria’s most severely
threatened habitats--forest. The organization selected this area because damage to the forest is less severe than in many other areas and difficult of access makes protection more feasible than elsewhere (ARI, 2017).

**E] A-Rocha Ghana**

A-Rocha in Ghana works throughout the country helping communities to protect some of the most biodiverse and threatened habitats. This ranges from Coastal fishing communities who depend on health mangroves, villagers around the rain forest of Atewa, farmers and fishermen from Lake Bosomtwe and the people of the arid savannah surrounding the Mole national park. Lake Bosomtwe is one of the world’s six major important lakes and forms a forest and wetland ecosystem globally significant for its flora and fauna. Farming and fishing are the main livelihoods for the 24 indigenous communities around the edge, so the lake and its catchment are an economically significant part of their existence. Since 2005, A-Rocha Ghana has worked with rural communities that are unsustainably dependant on natural resources by introducing training and support in alternative nature-based livelihoods such as cane rat rearing to replace wild caught meat, beekeeping, snail farming and growing a native spice called Grains of paradise to diversify farmers’ income. A-Rocha Ghana is helping the communities to manage their land as well as meeting their long-term needs (ARI, 2017).

In Ghana, the Atewa range forest reserve is international recognized for its diverse wildlife. Over 570 butterfly species have been recorded, more than in any other site in West Africa. Mammals include the threatened Geoffroy’s black and white callobus monkey, Royal antelope, Bushbuck, Black Duiker, Brush-tailed porcupine, mongooses, genets, civets, squirrels and pangolins.
However, the Atewa forest is threatened by a range of human activities notably, illegal logging, small scale gold mining. Since 2013, A-Rocha international and A-Rocha Ghana have been working together to assess the threats, strengthening the case for protecting it as a national park and addressing some of the problems of logging and mining.

A-Rocha Ghana is working with a local vocational training institute to reskill the miners, who see no other way of earning an income apart from mining, to give them and the forest a better future.

**Snail farming and mangrove protection in Ghana**

In Ghana the Muni-Pumadze Ramsar site is a coastal lagoon with beautiful white sandy beaches where three species of turtles, Leatherback *Dermochelys coriacea*, Olive Ridley *Lepidochelys olivacea* and Green *Chelonia mydas* lay their eggs. In recent years the vegetation has severely been degraded through firewood collection, charcoal production, cattle grazing and bush burning. Apart from that the lagoon has been affected by overfishing. As a result, the fishery spawning grounds have been affected, and the numbers of migrating birds dropping drastically as a result; this has led to serious impact on the lagoon’s conservation value and the well-being of the local people.

A-Rocha has responded to this by running a mangrove restoration project with twenty communities in the core area, near Winneba. One of these mangrove restoration projects is Akosua, a small fishing village where thirty women were directly involved. These women monitored the number of turtles coming to the shore and prevented their eggs from poachers. They also raise mangrove seedlings after which they plant them in the
degraded areas around the lagoon’s main fishing grounds. Due to their commitment to the project, the women were trained in alternative livelihoods, including snail rearing.

The snails have to be well fed and prevented from pests like red ants *Solenopsis sp* and the pens kept moist throughout. A-Rocha Ghana provided the women with equipment like a rearing pen and a breeding stock of four mature snails, they reared the hundreds of eggs laid and produced a large stock for harvest, since snails are a delicacy in Ghana, these animals are enjoyed at home and sold to raise money for expenses such as school fees or attendance at funerals, festivals and family weddings (ARI, 2015).

*Figure 2.1 A snail farmer from Ghana*

*Source: A-Rocha Ghana, accessed on 23/02/2019*

**F] A-Rocha Uganda**

In Uganda, A-Rocha concentrates in the Lubigi wetland, the biggest papyrus swamp in the Kampala area, surrounded by slums. A-Rocha Uganda is studying and protecting the wetland which is important for many water birds and birds of prey. The organization
works with the local communities providing clean drinking water and finding new ways of disposing sewage and rubbish. In this way, A-Rocha Uganda is transforming lives, bringing health, dignity and hope to the people while at the same time reducing the pollution of the swamp.

Across Uganda, approximately 25% of the population as at 2017 lacks access to clean, safe drinking water. This has made the organization to help the local people build their own bio-sand filters. In bio-filters water is filtered through layers of sand and sediments, drinking water no longer needs to be boiled, reducing the numbers of trees that need to be cut down for charcoal production. The bio-sand filter can be used by an average of five families. It can also save the many hours that may be spent boiling water and the precious money for buying charcoal. Bio-sand filters also greatly reduce infectious diseases such as cholera, dysentery and diarrhea (ARI, 2017). Combining environmental and health education the activities are improving life to the local people.

G] A-Rocha Kenya

In Kenya, A-Rocha came through Collins Jackson, a European living in Kenya who had gone to Portugal to study on birds. A-Rocha officially opened its office in Kenya for the first time in 2002 at Watamu and named it Mwamba field study center. It is on plot No. 28 from the beach.

At Watamu, ARK targeted the Arabuko-Sokoke forest eco-system, Mida creek, Gedi ruins and the Sabaki river mouth in Malindi. Recently, ARK developed an interest with the Dakatcha woodland game reserve at Marafa and hence opened a branch office.
ARK also has an office in Nairobi’s Karen. The organization manages the Karara forest on the Ngong road. At Karara, ARK carries out environmental education activities, has an indigenous tree nursery and ‘Farming God’s way’ demonstration plots (ARI, 2017).

ARK works in partnership with other organization like Kenya Wildlife Service (KWS), Kenya forest research institute (KEFRI), Kenya forest service (KFS), Nature Kenya, Kenya national museums, Wildlife cubs of Kenya, Anglican Development Service (ADS) Pwani and international bodies like Tearfund, Birdlife international, Farm concern international, African fund for endangered wildlife, Global learning and the World conservation union.

**Activities of A-Rocha Kenya**

ARK focuses on four main areas

1) Environmental Education: The organization teaches school children on the importance of caring for creation through seminars. They give opportunities to these children to experience how conservation and Christianity go hand in hand through practical involvement in the conservation work.

2) Community Conservation: The ASSETS scheme uses money generated from eco-tourism facilities to provide secondary school ‘eco-scholarships’ with a strong link to nature conservation.

3) Field Study Center: Mwamba is a field study center which hosts small groups for workshops and seminars who are primary school students from the schools surrounding the Arabuko-Sokoke forest and any outsiders who may wish to conduct their workshop at Mwamba or carry out any research work related to conservation.
4) Research and Monitoring: ARK’s scientific program has a focus on the local threatened habitats and species which include; the Arabuko-Sokoke forest, Mida creek, Gedi ruins, Dakatcha woodland, the beach line and the Sabaki river estuary eco-systems. The organization strives to understand the species and eco-systems better and the threats imposed on them and devise means of protecting them.

Environmental Education

ARK conducts seminars for school children over the April and August school vacations together with their parents or guardians. During the seminars, participants are instilled with conservation education. They are educated on the importance of forest and the need to conserve it. Apart from the forest, they are enlightened on the importance of the Mida creek, a tidal inlet 32-kilometer square. The participants are further educated on the threats faced by the creek which include logging of mangrove, overfishing and fish poisoning done by the communities around. They are further educated on the importance of mangrove to the coastal communities which include protecting the shorelines during adverse weather events among others. The participants are further required to ask questions or suggest solutions to these threats which might include community involvement, creating awareness, law enforcement among others (ARK, 2014).

Apart from the school students and their parents, ARK conducts environmental education to Pastors and Christian communities at large. The topics mostly covered include ‘care for creation and environmental stewardship’ (ARK, 2012, ARI, 2015). This is done using Biblical texts that are environmental friendly. Some these texts include; Gen.1:26-31, 2:15, 6: 14-22, Psalms 1: 3, 23: 2, 24: 1, Ezekiel 47:12, 1Kings 4:29-34,
Joel 1: 11-30, Jonah 4: 6-10, Mathew 25: 14-30, John 10:10, 2Peter 1:3, Rev.11: 18 and many others. Pastors are specifically trained on care for creation. They are taught that all that is seen on the earth’s surface is God’s and that human society is the caretaker. Christian communities generally are helped to understand that caring for the land and other species on the earth’s surface is an important aspect of environmental stewardship (ARI, 2015).

Projects of ARK

ARK runs several projects in the country though most of them are concentrated in Kilifi County as it is the home county of the organization. These projects are all geared towards environmental conservation aiming at habitat protection and restoring dignity to threatened species.

Farming God’s way

In a workshop attended by the researcher on 30th May 2015 at Mulunguni village in Marafa, Mc Ray, one of the ARK staff based in Nairobi gave a brief account of ‘farming God’s way’. He said that farming God’s way was started by a tobacco farmer from Zimbabwe who had converted to Christianity. The farmer asked God what he should do so as to stop growing tobacco. He asked himself the reason behind the forest being healthy yet nobody supplies it with fertilizers. He would sit under a tree during the day and observed the leaves as they fall down from the trees during the dry season. He concluded that the dry leaves and the small sticks served as carpets during the dry season but when it rains, termites work on them and turn them to manure, making the forest healthy all the time. The farmer thus resolved to farm the God’s way as a way of imitating what God does in the forest and as such the environment at large. He further
said that God does everything at His own will just the way He made a vine grow overnight to shelter Jonah at Nineveh, (Jonah: 4: 6-10) and made it wither overnight to remove the shelter for Jonah.

The organization equates FGW with the book of 2Peter: 1: 3a which states, ‘His divine power has given us everything we need for life and godliness…” According to the organization the use of artificial farming techniques is a way of poisoning the soil, as such it’s a way of destroying the godly nature of the soil.

Farming God’s way is a form of conservation agriculture which combines Biblical ethics and discipleship training with practical farming techniques which can increase productivity even on impoverished soils (ARI, 2015). FGW according to this study is rooted in the metaphor of migration to good land in the ecological motif. Santmire asserts that the Israelites identified themselves with the land of Canaan. They considered this land as theirs and thus their identity. The community’s being instilled with the FGW skills is for them to realize that the land and environment at large is theirs and hence valuable to them. This creates the need to conserve it for the present and future generations. In FGW, farmers are taught to avoid use of modern farming techniques like use of tractors and artificial fertilizers, they are also prohibited from burning the land but instead prepare the land before planting time according to the seasons and space seeds systematically as well as engaging in mulching (ARI, 2015). The farmers are also trained on how to make composite manure to supplement the artificial fertilizers. FGW can be compared with organic farming suggested by Wangari Maathai in her Green Belt Movement (GBM). In the GBM, Wangari was opposed to the imposition of genetically modified crops on the African soil. GBM educated farmers on sustainable farming methods like the organic farming to maintain soil fertility instead of using chemical
fertilizers which inhibits the regenerative capacity of the soil (Maathai, 2004). In the Organic farming, farmers use mulches as a way of conserving moisture in the soil. They also use fertilizers consisting of animal or vegetable matter with no use of chemical fertilizers or pesticides. In Kilifi County, FGW is done in Marafa to combat the gradual clearance of the Dakatcha forest for farming. Farmers are taught to kneel down to pray before and after work daily. Heavy mulches are spread on the seedbed which suppresses the growth of weeds, increases soil fertility and helps in moisture preservation (ARI, 2011, ARK, 2014). In addition, farmers are trained on how to make pesticides from indigenous herbs and practice intercropping to improve soil fertility. The intercropping could be done by alternating legumes and cereals or plant *faidherbia albida* trees and plant other crops under their canopies.

![Figure 2. 2 Farming God’s way in Kenya](image)

*Source: A-Rocha Kenya, accessed on 23/02/2019*
Indigenous tree planting and Mangrove restoration

Another project that ARK does in Kilifi County is indigenous tree planting and mangrove establishment. The organization supplies seeds to the nine Muvera clusters which are spread across a five-kilometer radius round the Arabuko-Sokoke forest and Mida creek. The seeds are composed of different species of trees from the forest. Nursery establishment is done by the Muvera members with guidance from the ARK staff while mangrove nursery establishment is done by the ARK staff themselves. The indigenous tree nurseries are done at the homes of the Muvera cluster members and at nearby primary schools where they meet after every two weeks. The ASSETS beneficiaries together with their parents and or guardians also manage trees nurseries in their homes which are monitored by the ARK staff. The trees reared in homes are planted in shambas after which they are sold to raise money to supplement the domestic budget or used as building materials. This helps to combat forest logging for charcoal or building materials. Mangrove restoration is done by the school children with the help of their teachers, villagers with the help of the community leaders and the ARK staff.

Conservation of the Dakatcha game reserve/ Scott reserve

Dakatcha woodland is found in Magarini Sub County in the larger Kilifi County. It’s a habitat for the Africa’s smallest owl, Sokoke Scops owl, *Otus ireneae*, as well as other rare animals and plants. In order to save this forest fragment found in Marafa, ARK implemented two strategies. The first strategy was to purchase 219 acres of the thicket dominated by the evergreen *cynometra* forest on which the owls depend. It was named Kirosa Scott reserve, in memory of Bob Scott, an English ornithologist whose widow raised the funds. ARK employed a member of staff to keep watch of the reserve and
educate the neighboring villages on the importance of the reserve. He also monitors the owls at dusk and carries out regular monitoring of the other birds in the reserve.

The other strategy was the organization to work long-term projects with the community around the forest so that it becomes aware of the role of the forest in pollination, pests control and other services vital to agriculture (ARI, 2015).

ARK therefore took the initiative of educating the community on the value of the forest so that the community may realize the importance of its survival for both the present and future generations to enjoy the beauty and benefit from its eco-services as well as understand its global importance.

Apart from that, ARK wanted to help the Christian community in Marafa understand that caring for the land and other species is an important aspect of environmental stewardship, thus the organization introduced FGW in Marafa.

ARK also strives to conserve the Arabuko-Sokoke forest and the Mida creek (a mangrove habitat) all in Kilifi North Sub County. In this area ARK has introduced indigenous tree planting, mangrove restoration and other eco-tourism schemes to raise funds for school going children. The indigenous trees and the mangroves are all geared towards forest enrichment in the Arabuko-Sokoke and mangrove rehabilitation in the Mida creek respectively (ARI, 2011). A-Rocha uses the Bible as their base and more so the book of Psalms, 24: 1, which states ‘The earth belongs to the Lord and everything in it’. A-Rocha claims that they have an obligation as Christians to live as responsible stewards of the world around motivated by their belief in God their creator (ARK, 2002).
2.3 Activities and values of ‘A-Rocha’

A Rocha responds to the global crisis of biodiversity loss through community-based conservation projects, via residential field study centers, site-based projects and wider advocacy.

1) A-Rocha carries out ecological monitoring and research in areas of high value for wildlife.

2) It spearheads practical measures for conserving and restoring habitats and their fauna and flora.

3) Encourages appreciation of nature and participation in its conservation, through environmental education and community outreach.

4) The organization carries research for the conservation and restoration of the natural world and run environmental education programs to people of all ages.

5) It draws insights and skills of people from diverse cultures, both locally and international.

6) A-Rocha works in partnership with a wide range of organizations and individuals who share their concern for sustainable world. It achieves this through practical involvement in nature conservation projects and ecological research.

2.4 Beliefs

A-Rocha International (ARI) as a Christian environmental conservation organization shares three beliefs which characterize them as Christians in motivation. The organization focuses on conservation, community based, intentionally cross-cultural and co-operative in approach (ARI, 2011)
1) A-Rocha uses the Biblical faith in the living God, who made the world, loved it and entrusted it to the care of the human society.

2) Provides a forum for understanding the relevance of the Christian faith to environmental issues.

3) The organization has commitment to God, one another and the wider creation. It aims at developing good relationship both within the A-Rocha family and in their local communities with whom they engage.

2.5 Conclusion

The chapter gave an over-view of A-Rocha International as a Christian environmental conservation organization, giving a brief history, values and activities. It further discussed the projects of the organization at international level. Finally, the chapter closed with an outline of the activities of the organization in Kenya.
CHAPTER THREE
CHRISTIAN AWARENESS ON ENVIRONMENTAL DEGRADATION

3.1 Introduction:
This chapter presents findings on environmental decay that may be attributed to the activities of Christians who are engaged by ARK in Watamu and Marafa wards of Kilifi County. The chapter informs of the Christians’ awareness on environmental degradation and the effects of environmental degradation. Christian awareness is the use of the Biblical texts to create an understanding of a given Christian concept. A-Rocha uses the Biblical faith in the living God, who made the world, loved it and entrusted it to the care of the human society to create Christian consciousness to the communities they engage in. It creates a forum for understanding the relevance of the Christian faith to environmental issues. Thus helping the communities understand that the environment belongs to them. The chapter further discusses causes and effects of environmental decay as presented by the informants.

3.2 Poverty and population increase
Poverty is often indicated as the driver for environmental resource degradation as the poor cannot afford any other alternative source of energy apart from wood fuel as the sole source of energy (Adongo, 2014). She further asserts that overpopulation renders the natural resources being overharvested, over utilized leading to forest reduction and loss of biodiversity. Thus, resulting to endangering of species, others becoming rare threatened while still others become extinct. As such, the global society is compelled to address poverty and environmental decline (Moyer, 2015)
Research findings from this study show that most of the churches were not informed of the church’s responsibility in as far as environmental conservation was concerned until the arrival of ARK. Almost 80% out of the one hundred and four people who were interviewed were able to tell that there was a lot of environmental decay going on in Marafa especially of deforestation brought about by financial needs as people extract charcoal for sale, timber for carpentry and carving works. In an interview held on the 3rd of April 2016 Pastor Johnson of Boyani Church admitted that there was a lot of environmental degradation going on in the area. This respondent from Boyani expressed that deforestation is very high mainly for purposes of charcoal. He compared the destruction of the forest with what his forefathers used to do and commented that this present generation is very destructive because his forefathers used to utilize trees sparingly. Herbalists were not allowed to uproot trees wholly; this ensured the security and continuity of the forest and the environment at large.

Similarly, Pastor George of Dongokundu Baptist church in Watamu in an interview held on the 26th of April 2018 confirmed that their culture (Mijikenda for that matter) never allowed deforestation. This is what Santmire proposed as the ecological motif (Santmire, 1985). The culture of these people valued nature. This is because the respondents further confirmed that herbalists were restricted from uprooting trees; whether for leaves, barks or roots; instead, they were supposed to use the herbs sparingly. Some writers (Adongo, 2014, Nyamweru, 2003) had documented the concern for environmental conservation along Coastal Kenya as emphasized in the Kaya forests by the Kaya council of elders for

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2 In an interview with Pastor Johnson Katana of Boyani church in Marafa on 3-4-2016 indicated that deforestation was alarming.
3 Pastor George Kalama of Dongokundu Baptist church in Watamu during an interview on 26-4-2018 said their culture did not allow deforestation as herbalists were restricted from uprooting trees wholly.
purposes of religiosity. Adongo further states that the council of elders protected the forest because the indigenous trees from those forests fragments are not found in the adjacent environs and were the major sources of indigenous herbs, she further affirmed that some species of medicinal herbs used to offer protection against evil spirits and ghosts are no longer found even in the Kayas due to degradation.

Nyamweru on the other hand observes that care for the Kaya forest was high such that any individual found interfering with the forest was fined and was supposed to buy clothes for the elders for cleansing (Nyamweru, 2003). However, today, she notes that though the Kaya forests are the only remnants of the indigenous forest along the Kenya Coast, almost 50% of the original Kaya forest has been cleared and people continue to exploit these forest fragments and extract products from them at unsustainable levels due to population increase and poverty (Nyamweru, 2007).

The researcher established that the pastors interviewed claimed to have embraced Christianity and had abandoned their Mijikenda culture and were now at crossroads in as far as environmental conservation is concerned, this is because if they preach more on environment, they feared they could lose their believers who come to church on weekly basis thirsty for spiritual nourishment. As per Santmire’s spiritual motif, the clergy tend to lean more on spiritual issues in their sermons and abandon the ecological issues. This may explain why environmental degradation is an issue in Watamu and Marafa in Kilifi County. The pastors however should embrace both the spiritual motif and the ecological motif so as to save the deteriorating environment. Even if the pastors should go up the mountain spiritually in their preaching as Santmire proposed, they should again look down to the environment and see what their believers are doing on it; there ought to be a
correlation between real-time environmental concerns and God’s intention of placing Adam on the Garden of Eden.

(Gumo, 2012) observes that African spiritualism created respect for animals, reverence for forests, rocks, mountains and rivers. It gave explanations as to why certain places were revered and certain activities tabooed. He argues that humility and respect for nature is a characteristic of African worldviews in which conservation values have grown out of the awareness that natural resources are part of that which ordinary humans cannot control, invent or create. That is why (Mbiti, 1969) argued that Africans viewed the environment as God’s revelation and manifestation, such that the existence of anything upon had meaning. The researcher concluded that the existence of the Kaya forests along the Coastal Kenya served as evidence that originally, the Coastal people and Mijikenda for that matter valued and revered their environment which is a characteristic of the African worldviews.

The Coastal region of Kenya is characterized by high poverty levels of 70-80% of the population living below the poverty line, and people are heavily dependent on natural resources for survival (Swiderska, 2015). The research findings showed that most of the people in the study area depend on either forest or quarrying for their survival, which are direct extractions from the natural resources.

In an interview held on 6th of April 2016, Pastor Samson of Kirosa Baptist church in Marafa 4 cited deforestation as the major form of environmental degradation where by people destroy and destroy forest mainly for farming land because their shambas are not

4 Pastor Samson Katisho of Kirosa Baptist church in Marafa on 6-4-2016 during an interview also cited deforestation for expansion of farming land which posed vulnerability of various species of wild animals and birds.
sufficient for the size of their families. Charcoal burning, carpentry work and sale of building polls to raise money. This respondent further said that the organization’s chief purpose of settling at Marafa was to save the forest so as to safeguard some species of mammals and birds that are endemic (only or largely found in the Dakatcha woodland only as their habitat and not anywhere else like the Sokoke scops owl) as they were becoming vulnerable and extinct due to forest encroachment. He went further and named some species of animals and birds that had become rare and he said that it was due to the destruction and disturbance of the forest which was their habitat; these birds were the Sokoke scops owls, Sokoke pipits, spotted Ground Thrush, and the Clarke’s weaver bird. The mammal that the pastor cited was the Golden Rumped elephant shrew (*Rhynchocyon chrysopygus*), sometimes referred to as Golden ramped Sengi. This respondent from Kirosa said that the organization trained pastors on “care for creation” because it valued forests for the habitation of birds and other animals. The researcher, however, concerning the comment from the respondent about the organization realized that the organizations’ main objective was habitat restoration and species protection such that the organization had gone further and purchased 219 acres of the Dakatcha woodland in Marafa forest for the endangered birds and other species (ARI, 2015).

(Moyo, 2002) recommended the church to work in partnership with the governmental, non-governmental and independent organizations that are dedicated to environmental sustainability. ARK is a non-governmental organization that is currently working with churches and the community at large towards environmental protection. Apart from ARK and other organizations working towards environmental protection, the Kenyan government is also getting concerned; recently the Deputy President issued a moratorium on the ban of logging on 24th and 25th of February 2018. This is a clear
indication that there is environmental degradation, more so of forest destruction and it had become a national concern.

Figure 3. 1 Six endangered species of birds found in Arabuko Sokoke forest and its adjacent environs

Adopted from A-ROCHA KENYA Newsletter of 2012

The birds are as follows:

Upper extreme left is Amani sunbird (*Anthreptes puliudigaster*), Clarke’s weaver bird (*Ploccus golandi*) and the East Coast Akalat (*Sheppardia p. polioptera*) then bottom extreme left are Spotted Ground Thrush (*Zoothera guttata fischeri*) which migrates from Tanzania, Sokoke pipit (*Anthus sokokensis*) and the Sokoke Scops owl (*Otus ireneae*). These six are recorded in the *Red Data Book for African birds*; that is, they are endangered species of birds while the Sokoke Scops Owl is both endangered and endemic (found in Arabuko-Sokoke forest only).
In an interview held on the 7th of April 2016, Reverend Kirimo of St. Peter’s ACK church from Marafa cited two major forms of environmental degradation as deforestation and quarries. The reverend further lamented that the quarries were dug for extraction of building blocks and sand for sale but no remedy was done to the pits left behind. This poses risk to lives for both animals and human beings. This creates a need for the organization to address the issue of quarrying.

In another interview held on the 2nd of April 2016, Pastor Thomas of Oasis Baptist church in Marafa concurred with the rest of the respondents and cited deforestation done mainly for charcoal burning and sale of building poles for sale. The pastor associated all these

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5In an interview with Reverend Kirimo of St. Peter ACK church in Marafa on 7-4-2016, it emerged that deforestation and quarrying are the major environmental decay in the region.

6In an interview with Pastor Thomas Wanje of Oasis Baptist church on 2-4-2016; the forms of environmental decay were deforestation for charcoal and sale of building poles. This makes response for conservation in the church very difficult.
with poverty and the population increase in that people engage in these forms of environmental decay because they are poor and he further said that even those Christians who had acquired the training from ARK still engage in those malpractices.

During an interview held on the 7th of April 2016, Pastor David of ‘Rock Evangelism ministry’ from Marafa said that environmental conservation is a responsibility of the church, but it is difficult to implement because of lack of employment and population increase that have no alternatives but for people to lean on the natural resources for their survival.

Extreme poverty poses a threat to nature (Bett, 2015). Bett argued that even though poverty level is high in the country, it should not be regarded as a license to environmental degradation. He further asserted that Christians have the responsibility to address to their believers’ environmental issues tirelessly. Despite all the efforts ARK is putting in place with regard to environmental conservation in Kilifi county, environmental degradation is still a major problem as found in the study during a focus group discussions with Chipande cluster held on the 20th of April 2016, Mijomboni cluster on the 22nd of April 2016, St. Stephen’s ACK church on the 2nd of July 2017 and on an interview held on the 17th of April 2016 Johnson Kafulo one of the forest guards,

7 On an interview with Pastor David Mlanda at Marafa on 7-4-2016 said that people have become many and are poor as they are not employed, makes conservation difficult at church level because of too much dependence on the natural resources.
8 During focus group discussions with Chipande cluster on 20-4-2016, Grace Dama Shida one of the members said that the partial fee scholarships paid by the organization is at times not sufficient and similar utterances were said by Raymond Nguma at Mijomboni cluster on 22-4-2016, Johnson Kafulo on a one to one interview on 17-4-2016 and in another FGD with St. Stephen’s ACK church on 2-7-2017, where by Lawrence Kalama who said that people are being educated by the organization and are willing but they still go back to the forest because they have no alternatives
all said that the partial fee scholarships given by ARK at times seems not sufficient as parents or guardians secretly go back to the forest to make ends meet.

Pope John Paul II, in his 1990 “world day of peace message”, stated that environmental crisis has reached such proportions as to be the responsibility of every individual and nation. The Pope emphasized that various aspects demonstrate the need for concerted efforts aimed at establishing the duties and obligations that belong to individuals, states and the international community. He asserted that development must not exclude respect for the natural resources, such as water, air, land and forest which constitute the natural world. The Pope further stated that governments have particular responsibilities to protect their own natural resources (Pope John Paul II EC N0 40 of 1990).

It emerged from the study that more needs to be done as deforestation is very high in Marafa and Watamu in the Arabuko-Sokoke forest as a result of charcoal burning and sale of building poles as raw materials for housing. However, ARK needs to put more effort as currently what is being done does not seem to be sufficient.

In an interview held on the 10th of April 2016, Festus Masha, ARK staff ⁹based at Watamu confirmed further on the issue of poverty and said that apart from the secondary school fees brought by poverty as a cause of environmental degradation, the other contributing factor to environmental degradation was food insecurity. He lamented that these factors have led to logging in the forest for charcoal, timber and building poles for sale. He further said that the organization opted to give bursary to children from needy families that live within a five-kilometer radius round the Arabuko-Sokoke forest so as to save the threatened habitat. He further said that apart from the bursary, the

⁹ During an interview with Festus Masha one of the ARK staff at Watamu on 10-4-2016 said that secondary school fees was ranked the highest contributing factor to environmental degradation that led to logging for charcoal and sale of poles
organization trained the Muvera clusters on local chicken rearing for sale in order to meet their basic needs and also supplement the fee payment as there are no reliable sponsors to give financial assistance. The researcher went further and interviewed some farmers from Marafa whom ARK had engaged; these farmers appeared very much informed on environmental issues despite the fact that most of them were semi illiterate as none of them had gone up to at least class six.

Though (Moyo, 2002) has recommended the church to be on the forefront whenever God’s creation is endangered by sounding a prophetic voice to the society, research showed that most churches never did that as stated by the respondents.

In an interview held on 3rd of April 2016, Elizabeth Haluwa, a farmer from Kirosa village of Marafa admitted that ever since she became a Christian, she had never attended a sermon on environment, until the time ARK came to Marafa; though she had received little education on environmental conservation from another organization known as “world vision”. Like the other interviewees, she noted the notorious environmental degradation in Marafa as deforestation. She further noted that even after the organization’s efforts of bringing the various trainings and activities on environmental conservation, it is still difficult to hear the sermons on environmental concerns in the churches. This exactly confirms Lynn White’s contention that Christianity is the most anthropocentric religion the world had ever seen; that it is God’s will that man exploit nature for his proper ends (White, 1967). Most of White’s arguments were based on the book of Genesis 1:28 which states ‘God blessed them and

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10 During an interview with Elizabeth Haluwa on 3-4-2016, a farmer from Kirosa village in Marafa and a believer said that since she became a Christian she had not attended any sermon on environmental conservation until ARK came to Marafa. She also noted deforestation as the major form of environmental degradation evidenced in Marafa.
said to them, be fruitful and multiply; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground’.

Accordingly, therefore, Christianity is to be blamed for environmental degradation. Her comments were similar to what another farmer from Mchekenzie village of Marafa 11, in an interview held on the 9th of April 2016 Kadenge conceded that churches never used to address environmental issues in their day to day sermons; in fact he expressed anger and pointed a finger to the pastors when he had realized that he had been doing the wrong thing for many years, though he had been in the church, after the ARK gave him the education. This indicates that pastors were ignorant to environmental issues. This is comparable to the metaphor of ascent [the spiritual motif in the ambiguity theory] since the pastors appear to lean so much on preaching of the heavenly issues while disregarding the ecological issues.

During the conversation, the farmer like the rest cited the major form of environmental degradation as deforestation. Like Haluwa, the first respondent, who was a farmer, Kadenge said that forests are destroyed mainly for charcoal production as a source of income since most people are unemployed; consequently, forest clearing also paves way for farming land. Kadenge further explains that those who had received conservation education from the organization were able to apply the ‘farming God’s way’ skills in their small farms of about one to two acres and are able to get harvests. However, he poses a challenge that since food is no longer a problem, “… money for educating our children had become the issue.” He wished ARK would find a market for their farm produce. Kadenge finds it difficult to convince his neighbors to engage in ‘farming

11 During an interview with Kadenge Charo on 9-4-2016 a farmer from Mchekenzie village in Marafa also said that no church sermons on environmental conservation were ever heard.
God’s way’ so as to discourage the clearing of virgin land for farming after two to three years so as to boost their crop yield. This is because of the unavailability of a ready market for their farm produce. During a FGD with Chipande cluster on the 20th of April 2016, Samuel and Tune points out that deforestation has led to some species of trees being endangered, for example the mangrove *Brachylaena huillensis*, mostly preferred for charcoal is almost becoming extinct. 

In an interview held on the 10th of April 2016, Pastor Kenga from Chamari village in Marafa attested that people engage in those malpractices for economic reasons. They sell the charcoal to obtain cash to meet their basic needs like paying school fees for their children, buying clothes and construction of shelters as there are no employment opportunities in the region.

In order for policy makers to address the environmental issues effectively, they must first address the poverty problem (Duraiappah, 1996). Research findings showed that environmental degradation in the ARK areas are due to partly poverty as people need to obtain money to meet their basic needs and population increase as people need to extend their land fragments in order to obtain more farming land.

### 3.3 Under- Development

Environmental and developmental concerns are intertwined in Kenya. Population increase, poverty and rapid urbanization contribute to environmental challenge to

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12 During a focus group discussion with Chipande cluster at Watamu on 20-4-2016; one of the Muvera clusters, Samuel Safari and Tune Kazungu pointed out that deforestation in Watamu is high but of two major species of trees; namely mangrove and *Brachylaena huillensis*.

13 During an interview with Pastor Kenga Masha of Chamari village in Marafa on 10-4-2016 said there was a lot of deforestation and sand harvesting in the region.
sustainability in Kenya (Moyer, 2012). Moyer further points out that specific problems include deforestation, land degradation, biodiversity decline and climate variability.

Construction in Kilifi County is expanding rapidly, especially with the current devolved county government where by educational centers and many other facilities have to be established. This has led to increased pressure and demand for natural resources like land, timber, sand and blocks for construction of roads, schools, hospitals, ECDE centers, private residential, polytechnics, universities and other social buildings needed during social gatherings to meet the needs of an expanding population which requires such facilities in plenty. This has led to great demand for raw materials for construction which in turn has resulted to massive alteration of the natural environment leading to massive environmental degradation; deformation of land and deforestation in the process of their extraction.

Research findings showed that apart from poverty, development is another factor that leads to environmental decay in Kilifi County. ARK strives to conduct their work in a holistic manner encompassing development and conservation (Moyer, 2015). It emerged that quarries are plenty in the study area which resulted from either private investors or land owners leasing their land for mining for economic reasons. Quarrying and sand harvesting has resulted to loss of biodiversity, which compelled ARK to participate in conservation (Moyer, 2012).

In an interview held on the 17th of April 201614Johnson Kafulo, one of the forest guards at Watamu commented that quarries disturb the earth and makes the land no longer

14 During an interview with Johnson Kafulo; one of the forest guards at Watamu interviewed on 17-4-2016 said that quarries disturb the earth and makes the land no longer intact but most people do not understand this and end up leasing their land to private investors.
intact. Most people, however, have leased their land to private investors for extraction of building blocks and sand in many parts of Watamu and even beyond due to poverty. He said that land owners were not aware of the risk they are imposing on the environment as they are reducing the earth’s load on that part of the earth. He cited Kanani in Watamu and Ngomeni in Marafa as the two major areas where quarrying and sand harvesting is done in large scale.\(^{15}\) During a FGD held on the 20\(^{th}\) of April 2016 at Chipande cluster, Mlanda Mwarabu cited two forms of environmental degradation as deforestation and quarrying in Watamu; this is done in large scale specifically at a place called Kanani. Mwarabu’s observations concur with Chengo’s,\(^{16}\) another respondent during the same focus group discussion who further said that the place had become unsafe for walking at night as people extract blocks even along the pathways. This is exactly what Santmire proposed as the spiritual motif in his ambiguity theory (Santmire, 1985), in which people or Christians are either hostile to the environment or least concerned with its state of existence.

In an interview on 9\(^{th}\) of April 2016, Stanley Baya, one of the ARK staff, said that Pastors dwell more on spiritual issues rather than ecological issues.\(^{17}\) He suggested that Pastors should address ecological issues at the grassroots. This respondent said that there is need for Christians to relate the Gospel with daily living; for example, the church

\(^{15}\) Mlanda Mwarabu, a member of the Chipande cluster during a focus group discussion on 20-4-2016 said that deforestation and quarrying are the main forms of environmental degradation in Watamu.

\(^{16}\) Chengo Ngolo during the same focus group discussion at Chipande noted the same environmental degradation of deforestation and quarrying as notorious in Watamu.

\(^{17}\) During an interview with Stanley Baya on 9-4-2016 said that the church is not fully informed on environmental conservation issues, he further said that the church needs to embrace holistic approach. Finally, Baya commented that much needs to be done to relate the Gospel to the day to day living, for example, the church should understand what the Bible says about my neighbor, animals, trees and many others.
should strive to understand the Biblical position of the neighbor, trees, animals and creation at large. The researcher observed that ARK is advocating for both the ecological and the spiritual motifs. The organization however, leans so much on the metaphor of ‘migration to good land’ in delivering their environmental conservation strategies. This is because they preach to their members in the process of delivering their services and at the same time give them skills on environmental conservation. ARK further educates the community on environmental conservation through instilling in them the sense of identity with regard to the environment as what Santmire proposed, for example the forest and all that it contains is theirs and it is here for a reason and as such it’s upon the community to conserve it.

WCED argued that environment and development are interlinked but development cannot exist on a deteriorating environment. This calls for the need to reclaim the environment.

Humans were given the responsibility to be good stewards, while in turn they were to benefit by feeding on some of the creation (Moyo et. al, 2002). The fact that humans are destroying the creation is actually against the will of God. Harris argues that there is need for careful recognition of all connections-social, spiritual, environmental and developmental for progress to prosper. He further notes that development and conservation go hand in hand (Harris, 2008).

The researcher concluded that Christians in Watamu and Marafa were aware of all the forms of environmental degradation taking place in their respective regions. It has emerged that poverty and under-development are some of the contributing factors to environmental degradation in Kilifi County, with Coast province having an absolute
poverty rate of 59 percent and Kilifi District being the poorest in the country (Moyer, 2015).

However, development is inevitable as people need good roads, hospitals, schools and other buildings but as Pope John Paul 2\textsuperscript{nd} puts it, “development must not exclude respect for the natural resources which constitute the natural world”. This means in the process of extracting the raw materials for construction; the quarries left behind should be redressed. Gecaga noted that quarries and pits disturb the earth’s surface in the process of creating them as they require the removal of all vegetation cover, top soil and subsoil in order to reach the required underneath raw materials (Gecaga, 1990). Hilson also notes that mining activity causes significant damage to landscape as it removes vast quantities of surface vegetation and mass deforestation (Hilson, 2002). He further argued that miners abandon pits and trenches without reclaiming spoils; thus landscapes are seen scarred with potholes and virtually devoid of vegetative cover following long periods of intensive prospecting. As observed in this study, quarrying and sand harvesting leaves deep pits behind which then turn to be hazardous to man and even livestock. That explains why Boff proposed liberation of the earth because is sick. Accordingly, theologians must speak of ecological sin (Boff, 1995). He argues that the commandment ‘Thou shall not kill’ for example refers to biocide and ecocide as well as to direct killing (ibid 245). According to Boff, Saints had created a synthesis that Christianity had lost the encounter with God, with Christ and with the spirit in nature which might otherwise bring freshness, purity and enchantment.

ARK uses Biblical verses that have environmental concepts in their seminars to warn the Christians that what is done on the environment is not Biblical for example, “The time has come to destroy those who destroy the earth (Revelation; 11:18b)”. This illustrates
that God is against what man is doing on the environment. As the organization imparts the environmental awareness and conservation skills to the community, it warns them through seminars that what is done on the environment is not Biblical and God’s wrath shall be upon them. The Bible further illustrates that; there shall be judgment for ecological sin (Matthew; 25:14-30). They explain that God’s plan was not man to destroy the environment but to be a good steward of it. The Parable of the talents compels Christians to be good managers of the environment which God entrusted upon them because they are co-creators with Him.

Accordingly, Christianity has a challenge in as far as environmental conservation is concerned; there is need to liberate the earth, churches must address the environmental degradation taking place in Kilifi County. Research showed that churches were not adequately informed on preaching about environmental issues but rather emphasized spiritual matters.

![Figure 3. 3 Quarrying at Kanani in Watamu](image)

Photo taken on 5th August 2017
Figure 3. 4 Sand harvesting at Ngomeni in Marafa

Photo taken on 26th of August 2016

Festus Masha, ARK staff on an interview with him on the 10th of April 2016 says that the organization has opted to train the Muvera on local chicken rearing as an alternative way of income in order to safe guard the threatened habitat of Arabuko-Sokoke forest and the Mida creek. The chicken rearing initiative was done at the branch office at Gede to supplement for the scholarships and to deter the community against bush meat consumption. At Mijomboni cluster, there were three members who had absorbed the initiative while at the Chipande cluster there were two members. This respondent further indicates that the project has been embraced highly at Girimacha in the Northern side of the forest.

\[\text{\textsuperscript{18}}\text{During an interview with Festus Masha on 10-4-2016 asserted that ARK trained the Muvera on local chicken rearing as one of the strategies in curbing the school fees problem. He further said that the project picked very high at Girimacha around Vitengeni in the Northern side of the Arabuko-Sokoke.}\]
3.4 Ignorance
Apart from poverty and development, ignorance is another contributing factor to environmental degradation as observed in this study. The Bible attributes man’s ignorance for the mourning of the land (see John 10:13). Man’s activities on the environment are compared to a servant who feels no bitterness for the loss of his master’s wealth. 19Allan Mjomba, ARK staff at Marafa, in an interview on the 7th of April 2016 concedes that churches are averagely responsive as they concentrate on heavenly issues and abandoning ecological issues. According to this respondent the churches that show positive response include the Catholics and the ACK churches. He further said that the churches do not seem to be fully informed on environmental concerns. The forest guard20 David Ngala, who was interviewed on 19th of April 2016, had similar sentiments and said that churches are not very responsive as he does not see them being involved in environmental issues. Santmire argued that the spiritual motif creates a room of separating human beings from the rest of creation and this explains why these pastors are not environmental driven because they do not relate it as part of their duty.

Some writers have reported that the attitude of conservation was more intense in communities that had received community conservation programs and incentives (Sinclair et al., 2011, Infield and Namara, 2001, Maundu, 1993). This concurred with field observations in that ARK’s outcomes in Watamu were more visible along the

19 In an interview with Allan Mjomba on 7-4-2016 said that churches are averagely responsive as they concentrate on heavenly issues and abandon environmental issues. He further said that the church seems not to be informed on environmental concerns.
20In an interview with David Ngala, one of the forest guard at Watamu on 19-4-2016, said that the church is not responsive to environmental issues as he had not heard them addressing ecological issues even on open air gatherings.
Arabuko-Sokoke forest and along the beach of the Indian Ocean, the focal points of the organization. The organization gives incentives to the dwellers of these areas in the form of scholarships for their children; they also repay fishermen who happen to catch turtles in their hunt for their daily bread as reported during a FGD at St. Stephen’s ACK church Dabaso in Watamu on the 2nd of July 2017.

Likewise, to Marafa dwellers, the attitude of conservation was more intense to the farmers who were trained on farming God’s way only, yet for effective conservation of the Dakatcha woodland, everybody must be a full participant.

Zawadi Charo from Chipande cluster at Watamu gave a detailed account as to why she should participate in conservation. She said that the main reason of her participation in conservation is because of incentives from ARK and partly tourists who come to either see the endemic birds or the wild animals. According to this respondent, these are the drivers of conservation at Watamu.

The researcher noted that there were several quarries in Watamu, Marafa and many other areas of Kilifi County resulting either from extraction of building blocks or sand harvesting that were either active or had been abandoned.

Mining and quarrying leads to loss of wild life and biodiversity as plants and other habitats are destroyed (Bett, 2015), the research findings show that some species of birds and trees had been endangered by man’s activities of environmental degradation, especially deforestation which renders these creatures vulnerable as their habitats are

21 During a FGD with Chipande cluster on20-4-2016, Zawadi Charo, the vice chairperson of the cluster said that, “If we don’t participate in conservation especially of the forest then we are going to miss tourist who come to look wild animals and birds at our Arabuko-Sokoke forest and at the same time we are going to miss scholarships from ARK.”
destroyed. Reverend Kirimo in interview on the 7th of April 2016 concedes that ARK decided to settle in Marafa mainly to conserve the Dakatcha woodland so as to safeguard the world wide endangered Clarke’s weaver bird that is currently found in Marafa especially in Changoto area within the Dakatcha woodland.

23 David Ngala, one of the forest guards during an interview held on the 19th of April 2016, said that if people were not going to be careful on conservation especially of forests, then there might be inadequate rainfall and fresh air in the near future which eventually might result in famine and diseases. Reverend Anderson Mwabaya from St. Stephen’s ACK church in Watamu during a FGD held on the 27th of August 2017 concurred with what the forest guard said that people were likely to have insufficient fresh air, low rainfall which would reduce agricultural production due to gradual forest clearance.

24 Two respondents from Dongokundu Baptist church, Daniel Shungu and Festus Shiveka, during a FGD held on the 4th of February 2018 lamented on quarries and sandpits that were left uncovered and pose threat to lives both human and livestock as they were very risky because some of them were very close to pathways. They further cited Kanani in Watamu had very many quarries

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22 Reverend Kirimo in an interview with him on 7-4-2016 said that the other utmost reason for ARK to settle in Marafa was to safeguard the Dakatcha woodland because of a worldwide endangered species of bird known as Clarke’s weaver bird as it is only found in this forest and not elsewhere in the world. He said the bird is found in an area in the forest known as Changoto and as such this area was bought by the organization.

23 During an interview with David Ngala on 19-4-2016 conceded that if people will continue being irresponsible on environmental conservation, especially of forest then the end results would be inadequate rainfall, lack of fresh air and famine.

24 During a FGD at St. Stephen’s ACK church on 27-8.2017, Reverend Anderson Mwabaya said that if people will continue ignoring environmental conservation, then the hazards are likely to be experienced like lack of fresh air, insufficient rainfall which he said would result in low agricultural yields.

25 Note: The words ‘Pastor’ and ‘Reverend’ are used unanimously in this research.

26 In a FGD at Dongokundu Baptist church on 4-2-2018, Daniel Shungu and Festus Shiveka lamented on quarries and sandpits that were left uncovered and pose threat to lives both human and livestock as they were very risky because some of them were very close to pathways. They further cited Kanani in Watamu had very many quarries
sandpits that were left open by the investors that they had become a health hazard. They cited Kanani in Watamu, Mjanaheri and Ngomeni within Magarini sub county; they complained that people cannot risk walking at night due to the pits which were so risky since some of them were very close to the pathways. According to one FGD participant, the dust and noise from the quarries has made life uncomfortable at Kanani; people are likely to be exposed to airborne diseases like tuberculosis.

Timber and building pole harvesting from the forests has reduced the forests very much in Watamu and Marafa in Kilifi County and even beyond. Nyamweru avers that though the Kaya forests are the highly revered places of spiritual pilgrimage among the Mijikenda and supposedly secluded and ‘primordial’ places, much of the cover has been degraded; a lot of lighting has settled in within these spaces, as is the case of Kaya Jibana in Kilifi county (Nyamweru, 2000:48). The researcher noted that environmental degradation was even destroying sacred places like shrines in Marafa (as expressed by Pastor Johnson from Boyani on the 3rd of April 2016). In an interview held on the 6th of April 2016, Pastor Samson from Kirosa Church concede that people have lost respect for the importance of the environment with all its resources and were clearing even sacred places for their personal gain; in this regard Kaya Shungwaya in Marafa is the most affected due to the activities of private developers. The respondent from Boyani further adds that their forefathers used to revere the forest such that even the herbalists used to harvest the medicine from trees sparingly and not uprooting wholesome trees. The pastor lamented that the attitude of conservation was no longer there.

resulting from cut out blocks while Mjanaheri and Ngomeni in Marafa is notorious for sand harvesting.
Figure 3. 5 Abandoned quarry at Kanani in Watamu

Photo taken on 29th of August 2016

Figure 3. 6 Abandoned sand pit at Ngomeni in Marafa

Photo taken on 7th of August 2016
Moyer in ‘working for God and sustainability ‘(Moyer, 2012) noted that Kenyan Churches tend to promote a theology which focuses more on heaven than life on earth. It has been suggested that Christians waste a lot of time and energy in fasting and praying for infectious diseases (such as malaria, typhoid or bilharzia) in the name of fighting temptations from the devil. Unfortunately, these efforts expose them to hazards that at times cost them the loss of a loved one. Nevertheless, this may be the result of irresponsible management of their environment through malpractices such as leaving long grass around their houses which harbor pests and mosquitoes, leaving children to wade through muddy water, and swimming in abandoned quarries which sometimes contain infection-causing germs, or sometimes fetching unsafe water for domestic use from the abandoned quarries. This informant observes that when it rains heavily at Watamu, they normally see public health officers moving around especially in villages like Dongokundu, Dabaso and Timboni cautioning people on the use of stagnant water for domestic consumption and also requesting villagers to clean their market places for health purposes. Karisa concludes that sometimes Christians suffer at their own expense because of lack of understanding. Another respondent from the same focus group at Dongokundu Baptist added that when it came to cleaning of the market places, that’s the time their church involves the youth as a way of environmental conservation.

27 During a FGD at Dongokundu Baptist church in Watamu on 4-2-2018, Festus Karisa a believer asserted that Christians spend a lot of time praying and fasting for infectious diseases that can be prevented by environmental management

28 Wanje Kigama during the same FGD at Dongokundu Baptist on 4-2-2018 said that their church only involved the youth in cleaning of the market place as an aid towards environmental care
3.5 Conclusion

In this chapter, the inhabitants of the ARK operational areas are aware of the environmental degradation since the organization had trained most of them. It emerges from the study that deforestation, quarrying and sand harvesting are the major forms of environmental degradation in these areas. The study also noted that poverty, population increase, under-development and ignorance are the contributing factors towards environmental degradation. It also emerged that the people from these areas are informed of the repercussions of the environmental degradation in their respective areas, like the resultant inadequate rainfall which might result to famine, insufficient fresh air and diseases. Conversely, some of them still engage in the malpractice, which poses a challenge to the ARK. The organization can re-skill the participants with alternative vocational skills like the case of A-Rocha Ghana. Due to the presence of the Indian Ocean, communities living around Watamu can be introduced to fish farming as the case for Renajj fish farming in Nigeria to diversify their income.
CHAPTER FOUR

CHRISTIAN OBLIGATION TOWARDS ENVIRONMENTAL CONSERVATION

4.1 Introduction

This chapter discusses the role of Christianity towards environmental conservation with reference to the Christian communities who are located within the premises of ARK. The chapter explains the responsibility the Christian communities have as far as environmental conservation is concerned.

4.2 Care for Creation

Care for creation is the upkeep of created things. These include flora, fauna and all that appears on the earth’s surface. The WCC in an Earth summit held in Granvollen, Norway in 1994 stated clearly that creation and its integrity cannot be understood and explained non-religiously. It encompasses all things together, with, before and in God. WCC further clarified that creation came into being by the will and love of the Triune God, and as such it possesses an inner cohesion and goodness. Though human eyes may not always discern it, every creature and the whole creation in chorus bear witness to the glorious unity, harmony with which creation is endowed (Ruether, 1992). It was noted in this study that ‘care for creation’ was at the core of ARK; this led the organization to train the pastors at the two respective areas.²⁹ David Mlanda, the pastor from Marafa, interviewed on the 7th of April 2016, says that ARK came to Marafa to educate the community on environmental conservation due to deforestation which was alarming; the

²⁹ In an interview with David Mlanda on 7-4-2016 at Marafa said that ARK trained them on ‘care for creation’ because the pastors were the best agents for evangelizing this Gospel to their believers. He further said that churches have a duty to initiate this change.
result is that species of birds and other wild animals have been endangered. He further explains that due to shifting cultivation, as there is no legal land ownership in Marafa, the Dakatcha forest has reduced greatly. ARK has trained the pastors on ‘care for creation’ mainly because they were the best agents for evangelizing the conservation Gospel to their believers. The pastor insists that because churches are centers for change, pastors have a duty to inform both parents and their children to invest heavily on education so as to access employment elsewhere apart from leaning so much on the natural resources at their disposal.

As the Eco-feminist theologian Rosemary Radford Ruether (1992) argued further in her book ‘*Gaia and God*’ that the only way to rescue nature is to bring about an earth healing- ‘a healed relation to each other and to the earth’- in which she emphasizes calls for a new consciousness, a new symbolic culture and spirituality. This is what she calls Liberation: restorations of the human to his/her true self and a reintegration of creation with its true destiny as God’s kingdom. According to Ruether, the earth is a living entity behaving as a unified organism in its totality. Ruether was advocating for inclusion of creation with the human as part of it not outside the ecological web. Each aspect of the creation was made by God for its unique purpose which cannot be fulfilled by another aspect of creation. This means that Christians must preserve the particular goodness of plants, land, animals and other natural resources in the environment. In respect to this, Christians have the responsibility of blowing a prophetic trumpet as a response towards any creation damage or loss.

The Pope John Paul the 2nd in his 1990 peace message on ecology referred to the book of Genesis’ account of creation events and noted that the events were always followed by the refrain, ‘And God saw that it was good’. This meant that everything that had been
created was of aesthetic value before the eyes of God. Therefore, when human beings reject the creator’s plan, or recklessly ignore it, they ignite a disorder that has inevitable repercussions on the rest of the created order. Thus, Christians have the obligation to protect and show concern for all creation. The organization has observed that due to deforestation, some species of animals and birds were disappearing and yet care for creation was part of religiosity. Boff proposed for a ‘holistic ecology’ since ecology is theological by nature, he agitated for a sacramental view of creation and doctrine of the Holy Spirit that provides a model of reality as energy. Thus, churches need to embrace ecology into religion seriously.

In the ambiguity theory proposed by Santmire, the metaphor of ‘migration to good land’ is to show one’s spiritual life as always rooted in the primary experience of the human world. Santmire asserts that an individual’s spiritual life will be located within nature and surrounded by the creatures of the earth and one’s identity will be given within the land experience. ARK as an environmental conservation organization is involved in care for creation. This was the main theme for training the pastors at both Watamu and Marafa. Kilifi County is a home to some of the richest and most diverse habitats in the whole of Kenya, considered internationally for birds and marine conservation (ARK, 2014). Despite the richness and diversity of local habitats in the area, an exploding population and desperately high levels of poverty, with Kilifi district being the poorest in the country (Moyer, 2015), huge strains are put on the delicate relationship between the local people and the surrounding environment. ARK has opted to work with the local communities in Watamu and Marafa wards in the county aiming at achieving the long-term conservation of threatened habitats and species. ARK offers the communities an
opportunity to experience how conservation and Christianity go together through practical involvement in their work, by relating the Bible with conservation.

30 In an interview held on the 7th of April 2016 Allan Mjomba, one of the ARK staff, said that the major aim of the organization in introducing the Muvera clusters for the indigenous tree planting at Watamu was to curb the vulnerability of the wild animals and birds as some species of birds had already become rare due to gradual reduction of the forest for charcoal and carving. The endangered birds include Clarke’s weaver bird, Spotted Ground thrush, East Coast Akalat and the Sokoke Scops owl, while the endangered animals include the Golden Ramped elephant shrew.

The respondent further said that apart from forest enrichment, the organization also engages in mangrove restoration to curb erosion along the beach line and rescues the marine creatures some of which depend on the mangrove roots as their laying grounds. The researcher observed that with the presence of ARK in both Watamu and Marafa, which is addressing habitat restoration and species decline, the issue of quarries should also be a necessity with respect to their projects of indigenous tree planting and FGW.

John Cobb, Charles Birch and Jay McDaniel in a WCC Earth summit held in Annecy, France in 1988, noted that the integrity of creation is the value of all creation for one another and for God. Birch further argued that it is the recognition of the intrinsic value of every living creature and the maintenance of the integrity of the relations of each creature to its environment. Adongo notes that as acres of forested land continue to disappear along the Kenyan Coast so does biodiversity. She further posits that environmental degradation along the Kenya Coast is due to logging, charcoal burning,
unplanned settlements, destructive mining practices and selective species exploitation and noted the *Dalbergia melanoxylon*, which is mostly preferred for carving is almost depleted due to its over exploitation.

In a WCC summit held in South Africa in 2013, Ayre, urges Christians to embrace the attitude of conservation of the environment in this third millennium when the planet is facing a critical environmental crisis. He further suggests that since mission is core to the church’s self-understanding, the church should embark on mission to the earth which should be practical not rhetorical. Indigenous tree planting used in forest enrichment and mangrove establishment along the beach line done by the communities in Watamu through the initiatives of ARK is geared towards reducing the vulnerability of marine and wildlife; this is the eco-mission. Apart from indigenous tree planting and mangrove establishment at Watamu, ARK engages the communities at Marafa in ‘farming God’s way’ where by farmers are discouraged from using tractors and artificial fertilizers which could probably interfere with the life of the underground creatures necessary for decomposition is also eco-mission. Farmers only apply heavy mulches on the ground and uproot weeds as their weeding method and use composite manure to boost the fertility of the soil.

Allan Mjomba, further said that the planting of indigenous trees is geared towards restoration of the indigenous trees in the forest which are harvested mainly for charcoal as the local people prefer certain species of trees, claiming they are the ones that produce the best charcoal. Forest enrichment is also done for purposes of curbing the

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31 Allan Mjomba on an interview on 7-4-2016 contended that indigenous tree planting is aimed at reforestation of indigenous trees which are harvested on daily basis by charcoal burners and curbing the vulnerability of wild animals and birds, while mangrove restoration is geared towards curbing erosion along the beach line and rescuing marine life.
vulnerability of wild animals and birds. In so doing ARK is caring for what God has created an aspect of their commitment to God and appreciation of nature. On the other hand, mangrove restoration along the beach is aimed at preventing erosion along the beach line.

Sidi Katana, from Chipande cluster during a FGD held on the 20th of April 2016 said that they move inside the forest de-snaring and checking for any forest disturbance that might otherwise chase away wildlife. Apart from that, they also monitor mangrove deforestation. These are some of the practical measures of conservation ARK is instilling to communities.

David Ngala, the forest guard in an interview held on 19th of April 2016, said that ARK came to Watamu mainly to conserve the Arabuko-Sokoke and Mida creek forest because deforestation and mangrove depletion was immense and that some bird’s species, wild animals and some tree species were becoming rare. This illustrates that the communities around the Arabuko-Sokoke is fully informed on the presence of the organization in their locality; restoring habitats and their flora and fauna.

4.3 Environmental Stewardship

Christianity has much to offer in this crisis of environmental degradation. Archbishop Njongonkulu Ndungane of Cape town avers that Christianity was entrusted by God the care of the universe; in his speech on the celebration of the world’s millennium in ‘proclaim liberty’ in 1998, the Archbishop purported that as followers of Christ, Christians have an onerous responsibility to act as faithful stewards of God’s kingdom

32 During a FGD at Chipande cluster on 20-4-2016, Sidi Katana said that they move round the forest once a week to do forest disnaring and monitor any forest disturbance that might otherwise chase away wildlife. She further noted that they monitor mangrove deforestation
and His dominion over all, not to spoil the earth’s resources and not to be unjust in dealing with His creation (Hawley, 1998). Ndungane based his arguments from the Bible in psalm.24:1, 146:6, arguing further that Christians have to internalize in their lives the Christian dogma that whatever one does to one of the little ones has done to the Lord (Matthew 25:40).

The archbishop’s speech is a Christian strategy towards liberation of the earth; since it has been argued that the facilities oppressing the poor and the oppressed results in the exploitation of nature (Boff, 1995), it is equally right to say that these facilities are man’s activities on the environment. One of ARK’s major strategies is to work long term with the communities living around the Arabuko-Sokoke forest reserve in Watamu and the Dakatcha woodland in Marafa. As Bob Sluka, one of the managers in the organization noted, A-Rocha is a Christian conservation organization whose main objective is to protect habitats to glorify God (ARK, 2012); which echoes their commitment to God and the creation. He further said that the habitats together with the species living in them have value because they are ultimately God’s. Thus, communities living adjacent to the forests and other habitats need to realize the importance of the survival of the habitats and the species in these habitats to them and the future generations as well as making them understand the global importance of the habitats.

Planting of indigenous trees done by ARK has been advocated by Kenyan scholars, notably Prof. Wangari Maathai. Wangari was a promoter of environmental stewardship. According to Maathai, trees like the Flaming red Nandi tree served as a living memory since it brought life to some barren lands. During her green belt movement (GBM) seminars with women, she taught them that God wants them to do something about their situation. Thus, the GBM involved 100,000 women who established 600 community
networks, running 6000 tree nurseries, and planting 30 million trees to reverse environmental damage (Maathai 2004). Wangari started the GBM as a response to the needs of Kenyan rural women which include lack of firewood, clean drinking water, shelter, balanced diets and income. As such her main focus on environmental conservation was deforestation and soil erosion. Thus Christians ought not to sit and look at the environment being degraded but to do something to liberate it.

ARK educates these communities that ‘caring for the land and other species’ is an important part of environmental stewardship (ARI, 2015). The study found that some Christian communities, have opted for the creation of employment opportunities for the youths, adults and mothers as a strategy to save the deteriorating environment; this has been observed in the mainland churches of Watamu near ARK’s premises which are St. Stephen’s ACK church (Canon Mweri ACK), St. John the Baptist catholic church and Dongokundu Baptist church.

At St. Stephen’s ACK church during the FGD held on the 2nd of July 2017, it was noted that the church opted to start different income generating activities as a response towards environmental protection like building a secondary school. In the secondary school, many believers and non-believers had been absorbed as subordinate staff members and others as teachers. Apart from the school, the church also had initiated other income generating activities within the church premises which included cashew nut roasting by the youth, kitchen gardening which is an initiative of the mother’s union where they grow vegetables for domestic consumption and for sale. The Mother’s union group also rears poultry for sale.

At St. John the Baptist catholic church, Christians had initiated so many income generating activities ranging from educational centers to farming opportunities as noted
during a FGD which was held on 27th of August 2017. During the discussion the researcher found that the church in conjunction with other Catholic communities in Malindi synod had so many income generating activities;\textsuperscript{33} as discussed by Elizabeth Kiema, a member during the discussion who said that women guild had table banking as their financial institution in the church where they collect their weekly incomes and put it in a cash box and then kept in the church’s safe after which the money is taken to the bank.

\textsuperscript{34}David Ndwiga another believer from the same church at the same FGD gave a detailed account of many institutions that are managed by the catholic churches in the entire Malindi synod which had created a wide range of employment opportunities to the believers from the Catholic Church and even others from outside the Catholic Church circles who are professionals. These institutions include St.Francis Xavier vocational college which trains youth on various vocational skills in Malindi, Pope Francis rescue center in Malindi for the abused children, St. Francis Home for the Disabled and a school for the disabled children, St. John the Baptist academy in Watamu which is within the church premises. He said that these centers offered both employment and skills for self-reliance.\textsuperscript{35} Jardin Ruwa, a believer from St. John the Baptist Catholic church during the FGD purported what her fellow believers had already mentioned and

\textsuperscript{33} During the FGD with St.John the Baptist catholic church 27-8-2017, Elizabeth Kiema, one of the believers cited table banking as a financial institution of the women guild in the catholic church in Malindi synod which covers up to Watamu

\textsuperscript{34} David Ndwiga also from the same catholic church on 27-8-2017 during the same FGD gave a detailed account of institutions started and managed by the catholic churches in the entire Malindi synod

\textsuperscript{35} Jardin Ruwa during the same FGD at St. John the Baptist catholic church purported what her believers had said and added that there was a greenhouse project
added that the church also had another institution called *green housing* situated in Malindi town which trains the youth on HIV awareness.

These institutions and many others have created employment opportunities to the many youths and adults as well, to them; this prevented the community from engaging in environmental malpractices as reported by Josphat Andalo\(^{36}\) during the same FGD at St. John the Baptist Catholic Church on 27\(^{th}\) of August.

At Dongokundu Baptist church during the FGD held on the 4\(^{th}\) of February 2018, it is noted that the church together with other churches from the same mission of Baptist in Watamu has quite a considerable number of income generating activities as reported during the FGD\(^{37}\) by Daniel Shungu one of the believers from that same church reports that there are schools that have been established by the Baptist churches in Watamu such as Wings to fly academy, Chafisi Baptist Academy and St. John the Baptist secondary school (started by Gede Baptist Church).

Apart from the investments from their mission, they also cited others from other Christian communities, for example\(^{38}\) Festus Karisa, another believer mentioned other employment opportunities from other Christian communities which were outside the researcher’s confinements like the silk group which he said is a financial institution managed by the women guild in the catholic circles where the members keep their small savings and gave it at the end of the year. He also cited the Jehovah’s Witness and said

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\(^{36}\)During the FGD held in 27-8-2017, Josphat Andalo said that the Catholic Church development wing decided to create employment opportunities because they thought that was one of the ways of killing idleness which could eventually drive the community to engaging in environmental malpractices.

\(^{37}\) Daniel Shungu during a FGD at Dongokundu Baptist church on 4-2-2018 cited schools that were established by the Baptist churches in Watamu as a way of creating employment opportunities geared towards environmental protection.

\(^{38}\) Festus Karisa, a believer during the FGD at Dongokundu Baptist church cited employment opportunities from other Christian communities.
that in that Christian community, those who are sent to evangelize or witness to people are normally paid.

According to the research therefore, Christianity has created employment opportunities all geared towards environmental protection because the believers and those who were not believers but are skilled in a way get employment.

4.4 Conclusion

It was found in this study that Christians in Watamu and Marafa understand their obligations as Christians towards environmental conservation. The study noted that care for creation and environmental stewardship are among the Christian obligations towards environmental conservation. They therefore have an obligation of caring for the environment entrusted to them by God.

The study noted that churches are the centers for change and as such pastors have a duty to inform both parents and their children to invest heavily on education so as to access employment elsewhere instead of leaning on the natural resources at their disposal. It was further noted that Christians in these areas opted for the creation of employment opportunities as a way of curbing the environmental degradation in their areas. Several Christian communities have opened institutions which employ people from all walks of life who have religious and academic qualifications to manage the institutions.

It was observed that some specific tree species are preferred for both charcoal and carving industry. These tree species are on the decline and are reared in the tree nurseries in large scale for use in forest enrichment and quarry rehabilitation.
CHAPTER FIVE
A-ROCHA KENYA’S ENVIRONMENTAL CONSERVATION INFLUENCE IN THE COMMUNITY.

5.1 Introduction
This chapter aims to evaluate what ARK has created in respect to its environmental conservation strategies in the areas of its confinement. It unveils some of the organization’s activities and projects and their importance to the communities around.

5.2 Value of Land
ARK has opted to educate the community on conservation and of the environment in Watamu and Marafa wards of Kilifi County as a strategy to curb the deforestation that was going on in the Arabuko-Sokoke forest. The organization’s focus is also on the Mida creek in Watamu ward, an intertidal zone where mangrove deforestation and over fishing are alarming (Moyer 2015) and Dakatcha woodland in Marafa. As Duraiappah (1996) has argued, apart from logging as the main cause of deforestation in the third world countries, other activities that contribute to deforestation include agricultural activities behind unsustainable deforestation. Research has shown that Dakatcha woodland has been encroached upon each year by the adjacent dwellers for purposes of farming. In an earlier study carried out around the Arabuko-Sokoke forest, Sinclair et al. (2011) noted that forest adjacent dwellers, many of whom have land holdings insufficient for the size of their families, see the forest as a source of new farm land. This has made conservation of the forest a major problem in Watamu and all the areas around the forest as most of the dwellers rely on the forest to meet their needs. Extraction of firewood, wood for building, timber, charcoal and wood for carving
industry is considered a threat to the forest (Sinclair et al., 2011). Yordy argued that more information does not necessarily lead to transformation in addressing the environmental crisis. She noted that the church’s most faithful mode of response to ecological issues is through Christian witness to the kingdom of God. She further argued that the church’s primary ecological task is to bear witness to what God’s revelation through Jesus Christ means for creation (Yordy, 2008). According to Yordy the witness should be in words and in deeds which she called ‘eco-discipleship’. ARK initiated various activities and programs all geared towards environmental conservation both in Watamu and Marafa wards of Kilifi County. These activities can be equated with what Yordy termed as ‘eco-discipleship’.

**Farming God’s way (FGW)**

ARK trained farmers from Marafa FGW, developed in Zimbabwe (Moyer, 2015), a form of conservation agriculture which combines Biblical ethics and discipleship training with practical farming techniques geared towards increasing productivity, even in impoverished soils (ARI, 2015). FGW combats the threat of forest clearance for the extension of subsistence farming land caused by inappropriate agricultural practices. In FGW farmers avoid the use of tractors, artificial fertilizers and burning of land. Instead, they prepare the land in advance according to season and space seeds according to crop species. In addition, heavy mulches are spread on the seed bed. Uprooting is the only weeding technique used to avoid roots disturbance. The mulches, which comprise of small sticks, dry grass and dry leaves, help in moisture preservation, suppression of weeds and increases soil fertility (ARI, 2015). The farmers are trained to make composite manure and pesticides from herbs for use on their shambas. The organization
trains the farmers to kneel down on their farms to pray for the land before and after work as reported by Stella Pekeshe, one of the farmers from Mulunguni village in Marafa. In an interview held on the 8th of April 2016, Stella said that before the arrival of ARK in Marafa she just used to plant crops in her shamba without using any manure and she did not offer any prayers for her shamba. As a result, the harvest was always low due to low soil fertility and the destructive work done by the wild pigs and porcupines. This made Stella to clear virgin land each year to ensure the harvest was sufficient for her family all the year round. In fact, Stella contends that her FGW plot was the best in the year 2015.

After ARK arrived in her locality, and the villagers trained on how to make compost manure to increase soil fertility, she no longer clears virgin land on yearly basis for farming. In addition, the culture of praying to God for her shamba before and after work was what she believed made the wild animals ‘blind not to see her crops’ because only her neighbors’ shambas have been attacked by the animals. Thus ARK has provided a forum for understanding the relevance of the Christian faith to environmental concerns.

Similar views are proffered by Kadenge Charo, a farmer from Mchekenzie village in Marafa in an interview held on the 9th of April 2016. Charo concedes that guinea fowls and porcupines have been a threat to his crops and the low soil fertility made him to clear virgin land on yearly basis. After receiving education on FGW and compost

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39 During an interview with Stella Pekeshe on 8-4-2016, a farmer from Mulunguni village in Marafa confessed that the yields from the FGW plot were quite huge compared to the yields from the rest of her plots. This made her not to clear virgin land for farming again.

40 Kadenge Charo on an interview on 9-4-2016, a farmer from Mchekenzie village in Marafa admittedly said that low soil fertility made him clear virgin land every year but after receiving the education on FGW and the compost manure making skills has increased productivity, he no longer clears virgin land for farming.
manure making, however, he has stopped clearing virgin land on yearly basis because he is able to harvest a lot for the whole year round and even beyond. He concludes that prayers are indeed a formidable weapon since before then he has spent sleepless nights in the cold chasing the porcupines, and, worse still, his wife would not attend to any of her chores in the house due to the threat of guinea fowls during the day. He has converted his neighbors to join him voluntarily because his shamba serves like a demonstration plot. The neighbors feel they need to learn how not to expend their time energy clearing new forest and large farming plots each year for farming. This is an illustration of A-Rocha’s commitment to God and development of a good relationship with the people they engage with.

Another farmer who had similar sentiments to the above two was 41 Elizabeth Haluwa, a farmer from Kirosa village in an interview on the 3rd of April 2016, who, together with her husband, would make huge heaps of compost manure for their shamba and consequently harvest so much that they would turn to ARK to look for a market for their farm produce. This is a clear indication that FGW has really been embraced by the participants.

42 Margaret Kangóme, a farmer from Boyani PEFA church in Marafa who was interviewed on the 6th of April 2016 said that FGW has been beneficial to them as at the moment they have curbed the problem of food insecurity. She further said that the problem at hand was storage of the surplus. Conversely, this respondent adds that, they

41 On an interview with Elizabeth Haluwa on 6-4-2016 said that the compost has been of great help to her such that ARK has to find a market for her farm produce.
42 Margaret Kan’gome on an interview with her on 6-4-2016 admittedly said that farming God’s way has been of benefit to them because they harvest enough and still they remain with surplus. She added that they are now faced with storage challenges.
no longer encroach the forest for farmland but the challenge at hand is financial, as ‘… food is not money’. Thus, financial constraints made them not spare the forest in order to burn charcoal for sale so as to get money to educate their children. This remains a challenge to the organization.

Figure 5.1 Farming God's way demonstration plot at Marafa ready for planting

Photo taken 2nd of July 2017

In farming God’s way technique; farmers use less land but the input from these small portions of land is sufficient in so far as food supply for a given family is concerned. This helps in combating forest clearance for farm land and families’ vulnerability to crop failure.
Though FGW proved economic, some farmers posed a challenge on it. Elizabeth Haluwa, the farmer from Kirosa, said that it is difficult to find the mulches as the grasses and herbs were all eaten up by livestock during the dry season, this forces them to travel long distances looking for mulches, which actually, a process that she says needs devotion.

![Faidherbia Albida Tree](image)

**Figure 5.2 Faidherbia Albida Tree** Photo taken on May 2015. At the background are more faidherbia albida trees and under their canopies is maize crop.

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On an interview with Elizabeth Haluwa on 6-4-2016 posed a challenge with the FGW especially in finding mulches as the grass and herbs are all eaten up by livestock during the dry season forcing them to travel long distances in search of mulches.
In a seminar the researcher attended at Marafa in May 2015, A-Rocha Kenya had the seeds for the above tree to issue to the FGW participants. The above tree, *Faidherbia albida*, is found in native Africa and Middle East. Common names include Ana Tree and Winter Thorn. In the Tanzanian Kiswahili, it is called Mgunga. It is a tropical tree and does well in the Coastal region and other tropical areas of Kenya like Kajiado County in Kenya but does not grow on clay soils. It is a fertilizer tree and mostly liked by bees and herbivores.

The tree grows to a height of 30 meters and depth of 80 meters and in most cases there might be water underneath. It belongs to the first class protein. When herbivores eat this plant, it can sustain them for up to three days. It is eaten by human beings as well. It flowers when all the trees have finished flowering, leaves are full of nitrogen and its roots are nitrogen fixers. It is good for timber.

The tree is mostly used in Zambia and over 160 000 farmers from Zambia are benefitting from it. Niger has reclaimed most of the stony and desert areas using this tree. 150 trees can be planted on a one acre plot and spaced at 10 or 20 meters apart. Farmers can plant any crop under its canopy and the new may still do well. It is wonderful forage for bees. The tree is also found in large scale in Malawi, Tanzania, and Niger.

Water is boiled separately and then poured on the seeds. The seeds are then covered for 12 hours before taken to the nursery, where the seeds will sprout after seven days. The tree matures after five years. The researcher considers that this tree could be of paramount in the abandoned quarries and sandpits as in the case of Niger where it is used to reclaim stony areas and deserts.
5.3 Value of forest

The organization opened its offices in Watamu to rescue the Arabuko-Sokoke forest as found in the study; as has been discussed by\textsuperscript{44} David Ngala, one of the forest guards in an interview held on the 19\textsuperscript{th} of April 2016, the importance of the forest is immeasurable; he has indicated that the forest is the major resource they have around. Apart from the forest, ARK is involved in mangrove forest rescue along the Indian Ocean beach line. Mangrove forests provide Coastal protection from storms and sea turbulences; they also are an important woodland resources, wild life habitat and carbon storage. Despite such enormous importance, mangroves suffer one of the fastest rates of destruction than any habitat worldwide (Moyer, 2015). This has serious implications for local communities which not only benefit from the wood supply, but are also reliant on the fish that use the mangroves as nursery habitats and on the protection that they provide to Coastlines in times of severe weather (Huxham, 2009).

Since mangrove forests protect the shorelines and coastal communities against storms, floods and erosion, supporting fisheries and sequestering and storing huge quantities of carbon, ARK decided to protect and rehabilitate mangroves along the shores of the Indian Ocean from Mida creek and its adjacent environs up to Malindi as reported by Allan Mjomba the ARK staff in an interview on the 7th of April 2016 \textsuperscript{45}

Arabuko-Sokoke forest and its neighboring Mida creek are biologically diverse, productive systems (Sinclair et.al, 2011), ARK came up with strategies to protect and

\textsuperscript{44} David Ngala said on a one to one interview on 19\textsuperscript{th} April 2016 that he volunteered to guard the forest because of his passion and that it served as a rain catchment, purifies air, source of firewood, a habitat for animals and birds and a source of varied species of trees.

\textsuperscript{45} Allan Mjomba on an interview on 7-4-2016, confirmed that indigenous tree planting is aimed at reforestation of the Arabuko-Sokoke forest and Mangrove restoration is geared towards curbing erosion along the beach line.
restore the habitat. These strategies included indigenous tree planting and mangrove restoration.

**Indigenous tree planting and mangrove establishment**

As a strategy in forest conservation, ARK introduced the activity of indigenous tree planting. The organization provides seeds to the Muvera clusters that are spread over a five-kilometer radius round the forest. The seeds comprise those of species of trees from the forest while mangrove nursery establishment is done by the A-Rocha staff at Mida creek. The organization supplies the seeds, while the cluster members establish the nursery beds with the help of ARK staff who are professionals. The ASSETS beneficiaries together with their parents and guardians manage tree nurseries in their homes which are monitored by the ARK staff. The trees which are raised in these homes are transplanted in their shambas, sold or used in forest enrichment. Those planted in the shambas are later used as building poles or sold to get money for domestic consumption; this helps to curb forest destruction.

Apart from the nurseries in the homes, the Muvera ASSETS clusters also raise nurseries of the indigenous trees at nearby primary schools, for example Mijomboni and Chipande; the two clusters which the researcher visited had tree nurseries in two schools, respectively Chipande and Mijomboni primary schools. The indigenous tree nurseries in the schools are used specifically for forest enrichment which the Muvera cluster will have identified after going around the forest and identifying open places or areas where trees have been cut down; then they take tree seedlings from the nurseries and transplant them to those locations.
Forest enrichment is done three times in the year as reported by Samuel Safari of Chipande cluster during the FGD held on the 20th of April 2016 and Raymond Nguma and Mramba Nyule of Mijomboni cluster on the 22nd of April 2016 respectively, where by a private investor, Kenya Glass had invaded an area within the Arabuko-Sokoke forest and was harvesting sand for his company when the cluster members who were women who were permitted to fetch firewood from the forest three times a week and also serve as forest guards, saw it, reported to the authorities and he was immediately stopped. After the stoppage of this intruder, the two clusters were given the responsibility of rehabilitating the abandoned quarry; this is what Boff called earth treatment and healing, which ARK should further engage at length with the communities. As seen earlier in this study, at Kanani in Watamu the indigenous tree activity could be more suitable in the quarry rehabilitation process.

However, when the researcher enquired about quarry rehabilitation, because their area is full of quarries, Joyce Hare and Chengo Ngolo the members of Mijomboni cluster during the FGD complained that that ARK had not involved them in quarry rehabilitation; though quarrying is done in large scale in their place.

46 During FGD with Mijomboni cluster on 22-4-2016 where Raymond Nguma and Mramba Nyule talked of the decay done by Kenya glass and the same report by Samuel Safari of Chipande cluster on 20-4-2016
47 During the FGD at Mijomboni cluster Joyce Hare and Chengo Ngolo admittedly said that ARK had not involved them in quarry rehabilitation
Figure 5. 3 Indigenous tree nursery at Mijomboni primary school

Photo taken on 2nd of July 2017

Figure 5. 4 Mangrove tree nursery at Mida creek

Photo taken on 2nd of July 2017
The mangrove seedlings are transplanted along the shorelines by the ARK using the local communities around with the aid of the village elders; they also involve the school pupils during forest enrichment as reported by Patrick Kazungu during a FGD held on the 4th of February 2018 at Dongokundu Baptist church.

5.4 Eco-tourism schemes

In its effort of conserving the environment, ARK came up with eco-tourism facilities which are eco-friendly in order to solicit funds, since they do not have reliable donors, so as to meet their promise of eco-bursary’ funding for children from needy families around the Arabuko-Sokoke forest and adjacent Mida creek; this is because ARK research ranked school fees as the highest contributor towards deforestation. This project included a suspended bridge or board walk at Mida creek where children and adults could climb and have a view of the Ocean, Kirepwe and Sudhi islands, and surroundings close to the creek. The suspended boardwalk is 260 meters long. On this suspended board walk, children pay Ksh.50 as climbing fee while adults pay Ksh.100. People from within and elsewhere enjoy this suspended bridge and the organization benefits a lot from it.

48 During a focus group discussion at Dongokundu Baptist church on 4-2-2018, Patrick Kazungu said that ARK manages mangrove nurseries at Mida creek while the transplanting is done by the local community around and school pupils with the aid of the village elders.
Apart from the suspended bridge, ARK has also made a tree platform at Gedi ruins where people climb and have a clear view of the whole monument from this platform; here both local and foreign tourists are charged, at Ksh.20 for children and Ksh.100 for
adults. It is also a source of income which boosts the school levies for the needy children. Here, local and foreign tourists, the communities around together with the school pupils enjoy.

![Figure 5. 6 tree platform at Gedi ruins](image)

Photo taken on 2\textsuperscript{nd} of July 2017

Apart from the above two eco-tourism facilities, ARK has also trained the Muvera clusters on the rearing of local breeds of chicken which could be easily obtained from the villages. Chicken rearing helps in supplementing the daily hunt for forest meat at the same time becomes a source of income. Though, Festus Masha, one of the ARK staff, conceded that this has not been embraced well by the communities around Watamu, but the communities on the northern side of the forest. In her concluding remarks noted that Christian communities are called to serve as ‘demonstration plots’ in the kingdom of God (Yordy, 2008). The programs that the organization has initiated have no
environmental hazards. They are therefore worth embracing as indeed is the way the community has responded in Watamu and Marafa.

Figure 5.7 *Chicken rearing from one of the Muvera members at chipande cluster*

Photo taken on 2nd of July 2017

5.5 Conclusion

This chapter demonstrated the influence of ARK to the community. It was found in this study that the community had embraced the environmental conservation strategies employed by ARK with enthusiasm. The communities in Marafa have embraced the FGW and as such have curbed the vulnerability of crop failure; hence families living adjacent to the forest have enough food supply at their disposal. The communities in Watamu have positively responded with the indigenous tree planting and mangrove establishment. They rear tree seedlings at their homes and school.

Apart from the afore-stated, the communities at Watamu and beyond enjoy the eco-tourism facilities around their area.
CHAPTER SIX
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction
Having attempted to examine the conservation efforts of A-Rocha as a Christian environmental conservation organization, Christian awareness on environmental degradation in Watamu and Marafa wards of Kilifi County, Christian obligation towards environmental conservation and ARK’s environmental conservation influence, this chapter gives the summary of the findings, conclusion and recommendations of the research study.

6.2 Summary of findings as per the objectives
The research discussed the conservation efforts of ARI, analyzed the Christian awareness on environmental degradation. The study noted that Christians in the two regions of Kilifi County are very much aware of the environmental degradation going on in their respective regions of the county and their effects.

6.2.1 A-Rocha as a Christian environmental conservation organization
The study noted that, A-Rocha as a Christian conservation organization is working hard to reclaim creation through its various activities and projects worldwide. Through its projects, it has supported many families as seen with snail farming in Ghana, reskilling the community with vocational skills so as to better their lives in Ghana, helping the communities in Uganda acquire clean and safe drinking water easily and economically through the use of bio sand filters and many others. A-Rocha has also protected various habitats which might otherwise have been destroyed and yet they are vital for human survival; for instance, the Atewa forest which is a rain catchment area for millions of
people in Ghana, a habitat for numerous species of butterflies, mammals and birds which the future generation would not have seen.

A-Rocha provides a forum for understanding the relevance of the Christian faith to environmental issues. The organization has commitment to God, one another and the entire creation. It uses the Biblical faith in the living God who made the world and entrusted it to the care of the human society.

6.2.2 Christian awareness on environmental degradation

It has emerged that there is significant degradation of forest and land. These are attributed to poverty, development and ignorance. This is because people need infrastructure and meet financial needs. Churches on the other hand are reluctant on giving biblical environmental teachings, this poses a challenge to ARK as it has to move an extra mile in as far as environmental conservation is concerned.

Almost 80% out of one hundred and four people who were interviewed admitted that environmental degradation was immense

Forest destruction is attributed mainly to farming, logging for charcoal and building polls, while wild animals and birds have been made vulnerable due to destruction of their habitat. Land is destroyed chiefly for economic reasons by either local or foreign investors through quarrying and or sand harvesting done either manually or by the use of machinery.

Poor agricultural farming technique is another cause of environmental degradation as this made people to encroach the forest every year in search for farmland which has reduced the Dakatcha woodland very much. In addition, financial constraints were
another indirect cause for forest destruction, together with quarrying both in Watamu and Marafa.

6.2.3 Christian obligation towards environmental conservation

Research indicated that churches are centers for change and as a result pastors claim they have a duty of informing their believers, who constitute of parents and their children, to invest on education. This will aid in accessing employment elsewhere instead of leaning on the natural resources.

It was further noted that Christians in the study area are establishing income generating activities as a response towards environmental protection. These range from direct commercial investments to agricultural opportunities. These investments have employed believers ranging from professionals to subordinates.

Finally, the study observed that certain tree species are reared in large scale in the tree nurseries to be used for forest enrichment because they are on the decline.

6.2.4 ARK’s environmental conservation influence in the community

The study established that communities from both Watamu and Marafa wards of Kilifi County have responded positively to the organization’s strategies of environmental conservation. They have embraced the FGW, indigenous tree planting and mangrove establishment. The FGW participants harvest more than enough, giving a challenge to ARK to look for a market for the surplus. Watamu residents have realized the importance of the forest to the extent of volunteering to guard it. The Muvera members on the other hand move around the forest in search of any forms of destruction so as to take enrichment measures after identifying any gaps in the forest. They have also
acquired the skills for chicken rearing and nursery establishment for the indigenous trees. ARK has initiated very many environmental initiatives that are eco-friendly; these initiatives include the FGW, indigenous tree planting and other forest enrichment measures planting; eco-tourism features include suspended boardwalk on which people pay small levies for climbing to view the ocean and the surrounding islands, and a tree platform on which people also pay small levies as charges for climbing to view the monument.

However, according to the research, the organization has both merits and demerits.

**Merits and Demerits of ARK:**

a) Adequate food supply for the participants leading to a reduction of forest encroachment.

b) Impartment of less soil disturbance farming skills leading to high retention of moisture and less disturbance of microorganisms.

c) Lack of market for surplus leading to community’s going back to the forest to make ends meet.

d) The education being imparted reaches few people yet for effective conservation every person has to participate. This makes conservation of the environment a challenge.

e) The organization could introduce agri-business farming. For example, they could introduce horticulture where fruits and vegetables could be grown in the FGW plots. These easily fetch market country wide. This could be a source of income and reduce the risk of forest clearance.
f) Since the organization imparts skills which are cost free, this allows for every member of the community to participate in the conservation.

g) The presence of incentives seems to be the motivation for conservation in the community. According to the research if the incentives are withdrawn from the community, people might not be motivated to conserve the environment. This is because the incentives seem to be insufficient to the community.

h) The organization engages in forest enrichment and afforestation in the participant’s farms. This is quite commendable because it assures the availability of wood for building, source of fuel, source of income when sold and even source of wood for the carving industry. This reduces the risk of deforestation.

i) The local chicken rearing project done by the Muvera participants is a good source of both meat and income. The organization could also introduce to the participants organic farming to enhance economic benefit of the chicken droppings as well on their FGW plots. This could increase productivity in either way. When the farm produce are high, poultry production is likely to be high due to adequate supply of food for both human and poultry. Thus raising income through creation of self-employment.

Lastly, the organization consistently conducts environmental conservation seminars to remind the ASSETS beneficiaries and their parents or guardians on the need to conserve the environment.
6.3 Conclusion of the study

ARK’s strategies of environmental conservation have been of benefit to the communities in both Watamu and Marafa wards. However, the organization covers a very small portion of the entire Kilifi County; this is a challenge to the organization as the education and the skills it imparts reaches very few people.

According to the research, it emerged that A-Rocha is struggling hard to rescue the creation, but human activities form the greatest of the factors threatening habitats. The local communities living around the Arabuko-Sokoke forest, Mida creek, Gedi ruins in Watamu and those around Dakatcha woodland in Marafa struggle to make ends meet while the environment is struggling to survive. The study showed that communities living in these two areas of the County were aware of all the forms of environmental degradation going on in their areas as well as the impact of this environmental decay to their lives. Deforestation, quarry-extraction and sand harvesting were the major forms of environmental degradation in these two areas of the county. The impact of the environmental degradation as reported by the respondents were insufficient rainfall, infestation by airborne and waterborne diseases, looming desertification, insecurity posed by the abandoned quarries, vulnerability of wild animals and birds and a threat in the collapse of the tourism industry in the area. The contributing factors towards environmental degradation in the two areas were poverty, under-development and ignorance.

The researcher further observed that the Christians in Watamu and Marafa were not fully informed of their obligations as Christians. However, the study deduced ‘care for
creation’ and ‘environmental stewardship’ as their obligations towards environmental conservation.

Again, the researcher further observed that ARK had created environmental conservation awareness and the communities had embraced the strategies. FGW picked well in Marafa as the farmers had acquired the skills of the compost manure making which was also an added advantage. Indigenous tree planting and mangrove establishment had also picked up well in Watamu. Additionally, the Watamu community enjoys the ‘eco-tourism’ facilities in their area as the ASSETS beneficiaries were able to secure scholarships from them. They also acquired nursery establishment and poultry rearing skills.

In its effort to prioritize the challenges that threaten the different habitats in relation to the communities living around them, ARK realized that school fees was the worst challenge that threaten the habitats and thus came up with the issue of secondary school bursary funding for children from needy families. However, according to the research, ARK has to look for other strategies as the environment is getting more degraded.

Though ARK is working towards conservation of the environment, there is need for the organization to address the issue of quarries in the county as this is the earth treatment and healing proposed by Boff, this means that the scars on the landscape left by quarrying and sand harvesting need to be rehabilitated through the activities of FGW and indigenous tree planting.

Research findings noted that the church is not very much supportive to environmental conservation issues in the county as most of the respondents admitted that they only hear environmental teachings during seminars organized by ARK; if it was ever conducted
in the church then it may have been a long period back when a visitor came to the Christian community, this makes environmental conservation very difficult since change takes time as it involves changing people’s attitudes on how they perceive nature: if they see a tree, do they look at it as shade, God’s creation, air cleanser, charcoal or timber? Thus, the environmental sermons have to be repeatedly and tirelessly preached and the seminars conducted by both the churches and the organization and other stakeholders as well. The environmental conservation trumpets have to be blown tirelessly.

6.4 Recommendations

The study showed that there is significant degradation of natural resources in Watamu and Marafa wards of Kilifi county. The natural resources mostly degraded according to this study include forest and land. The environmental degradation is mainly attributed to poverty, under-development and ignorance. It has emerged that the main causes of deforestation are charcoal burning, expansion of farming land, building polls and to some extent curio and carpentry works. There is need for ARK to create more awareness on the importance of forest and its resources so as to create a positive attitude towards its conservation. Again, there is need for the organization to train more people to embrace proper farming methods like FGW. Apart from composite manure which the organization trains its members on its substantial use, the organization should further inculcate on the use of organic manure which comprises of animal and vegetable waste. This is easily available from their homes since the Muvera cluster members are involved in local chicken rearing.
Quarrying and sand harvesting are mainly for economic reasons. Although ARK is mainly involved in scientific research and species monitoring whereby it restores integrity to endangered and endemic species, it has an obligation as a Christian conservation organization to address the issue of land degradation in the county because without the land there can be no birds, trees, animals and all the other creation that move on the ground. The activities which ARK engages in are quite viable in these detrital land fragments as indigenous tree planting can be done both in the abandoned quarries and sandpits. Again, participants do not pay any fee for participation. The *Faidherbia albida* tree can be planted on the abandoned quarries as the way it is done in Niger so as to make the land beneficial to the society again. The organization can do all this through the environmental education workshops and through community direct involvement.

Again, ARK should take the initiative of involving more churches in their environmental conservation strategies so that more Christians have access to the environmental conservation education.

A Part from the ‘eco-bursary’ funding done by the ARK to the ASSETS beneficiaries, which this researcher feels reaches very few individuals, the organization should come up with a way of reskilling the youth who do not make beyond form four. For example, A-Rocha Ghana opted to reskill the miners with vocational training so as to better their lives in order to save the Atewa forest.

*A-Rocha Nigeria’s Eden Creation Care initiative* has a vision of shaping the landscape itself; ARK can also consider this idea with regard to the quarries and sandpits left behind by the investors. In addition to local chicken rearing, ARK can further introduce bee-farming to these communities with the aid of the *Faidherbia albida* tree, which is
liked by the bees so as to diversify the farmers’ income and save the Dakatcha woodland in Marafa, the Arabuko-Sokoke forest and the mangrove forest at Watamu.

6.5 Suggestions for further study

This study was guided by specific objectives which made the study to be the way it is; hence further research could be carried out on the following areas. Investigations could be carried out on the challenges facing ARK on its efforts to implement its conservation activities so that it reaches a larger population. This might help the organization in achieving its core objectives which is changing people’s attitude.

Investigations could also be carried out on whether the churches/Christians have conservation concepts and if so whether these concepts are active and how they disseminate them.
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APPENDICES

Appendix 1 List of Respondents

Category A. Pastors

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Category C. ARK Staff

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Category D. Forest guards

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Category E. FGDs Indigenous tree planters from Watamu

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**Category F. FGDs Christian communities from Watamu**

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Appendix 2 Certificate of ethical approval

CERTIFICATE OF ETHICAL APPROVAL

THIS IS TO CERTIFY THAT THE PROPOSAL SUBMITTED BY:

MERCY CHIZI NYALE

REFERENCE NO:
ERC/MA/006/2017

ENTITLED:

TO BE UNDERTAKEN AT:
KILIFI COUNTY, KENYA

FOR THE PROPOSED PERIOD OF RESEARCH
HAS BEEN APPROVED BY THE ETHICS REVIEW COMMITTEE
AT ITS SITTING HELD AT PWANI UNIVERSITY, KENYA
ON THE 7TH DAY OF JULY 2017

CHAIRMAN  SECRETARY  LAY MEMBER

[Signatures]
Appendix 3 Letter of Introduction

Mercy Chizi

Department of Philosophy and Religious Studies

Pwani University

P.O BOX 195-80108-Kilifi

Date: …………………

Dear Sir/Madam

Ref: Introduction Letter.

I am Mercy Chizi, a Master of Arts degree student at Pwani University in the School of Humanities and Social Sciences; Department of Philosophy and Religious Studies. I am on my research program and wish to collect information from you on, “An Appraisal of A-Rocha Kenya’s Christian efforts and approaches towards the conservation of nature in Kilifi County”.

This research is conducted with permission from Pwani University ethics and review committee.

All ethics pertaining to confidentiality of information you give shall be observed; where you do not wish your names to be recorded, letters will be used instead.

Finally, I would kindly wish to tape record or take photos if need arise.

Kindly, be good respondents for my research.

Yours faithfully,

Mercy Chizi Nyale.
Appendix 4 Consent form for all respondents

Dear Sir/Madam,

My name is Mercy Chizi Nyale. I am a Master Degree student at Pwani University in the department of Philosophy and Religious studies. I am undertaking this field research as a fulfillment for the requirements of the award of the degree of Master of Arts in Philosophy and Religious Studies My topic is: AN APPRAISAL OF A-ROCHA KENYA’S CHRISTIAN EFFORTS AND APPROACHES TOWARDS THE CONSERVATION OF NATURE IN KILIFI COUNTY. The main purpose of this field work is to gather relevant information that may aid in drafting my thesis. Hence, if granted permission, I intend to participate in oral interviews, observation, focus group discussion, tape recording and photo taking if need arises.

Dear Respondent,

With sincerity, I request you to volunteer and to fully participate in the collection of the relevant information of this research. The information gathered here will be treated with confidentiality and will be used for the purpose of this research only. In case you feel discontented with the manner of treatment or need further clarification on any issue in the course of gathering the information, you may contact my supervisors Prof. Muoki, Dr. Tsawe Munga wa Chidongo or Ethics and Review committee of the Pwani University. Consequently, you may withdraw from the study without any prejudice. I agree to participate in the research voluntarily and I may withdraw in the course of the research without any condition or explanation.

Respondent: Signature: …………………….Date: …………………

Mercy Chizi (Researcher) Signature: …………………….Date: …………………

Cell-Phone +254 725 515609 E-mail: chizi.mercy@yahoo.com.
Appendix 5 interview guide for the farmers

1) When did ARK come to this place? In your opinion why do you think ARK as an environmental conservation organization opted to come to this place?

2) Why do you think ARK as a Christian organization is involved in those activities in this area in particular?

3) What activities do you engage in as ARK members and as Christians?

4) ARK is a Christian organization that deals with environmental conservation; did your church used to do the same before the arrival of ARK to this place?

5) What is your opinion on environmental decay?

6) Are there any challenges you face in the process of implementing ARK’s environmental conservation activities? Which are they and how do you counter them?

7) Are there any benefits realized from the environmental conservation activities carried out by ARK? If yes, what are they?

8) Are there any challenges associated with the benefits? What do you think should be done to counter these challenges?

9) Are there any improvements being realized on environmental conservation since ARK came to this place? Which are they?

10) Has ARK ever thought of the deforestation/ quarries and sand pits in this locality? What measures are they putting in place as a response towards mitigating this problem?

11) In your opinion, do you think ARK’s efforts shall remain even after the organization departs this place?
Appendix 6 FGD guide for the indigenous tree planters

1) ARK is a Christian organization dealing with environmental conservation; what activities does it engage in and why?

2) Being a Christian organization why do you think ARK is involved in those environmental conservation activities in this area?

3) What do you think made ARK to come to this place?

4) As Christians did you have any information on environmental conservation before this organization came?

5) Are there any forms of environmental decay evident in your locality? If yes, which are they and what stringent measures are put in place to counter them?

6) What challenges do you face in carrying out the environmental conservation activities both as ARK members and as church members?

7) Are there any benefits realized from these environmental conservation activities? Which are they?

8) Are there challenges associated with the benefits? If yes, which are these challenges and how are these challenges addressed?

9) Are there any improvements being realized on environmental conservation since the arrival of ARK to this area? Which are they?

10) In your opinion do you think if ARK ceases today shall it leave any legacy? How?
Appendix 7 Interview guide for the pastors

In your understanding what constitute environment?

1) In your opinion could there be any forms of environmental decay taking place in your area of jurisdiction? If yes; which are they?

2) Culture and traditions of a given community can affect how people in a society view the environment as a whole. In your opinion how has the culture of the people you serve contributed to the care/ destruction of the environment? What is the church currently doing to curb this?

3) Lack of awareness on issues of environmental concern can greatly harm the environment. Do you think the church or Christians as a whole are doing anything to correct this?

4) ARK as a Christian environmental conservation organization decided to settle here. In your experience as a pastor in this locality what do you think prompted this organization to come?

5) ARK decided to train some pastors on ‘care for creation’ what do you think prompted the organization to train the pastors specifically on this topic?

6) Access to employment is one of the major contributing factors to environmental decay. As Christians what are you doing to correct this problem?

7) Environmental care is a global concern. As a pastor; do you think you have any responsibility towards this issue? How?

8) ARK came to this place sometimes back and started its environmental conservation activities here. Are there significant impacts on environmental care being observed since its inception? Which are these? In your opinion do you think the church shall be in a position to carry on this mission after ARK departs this place?
Appendix 8 FGD for the Christian communities not affiliated with ARK

1) In your own understanding what constitutes environment?

2) Environmental decay whistle has always been blown by various stakeholders. Are there any forms of environmental decay in this area? What do you think are the causes? What is the church doing to correct this?

3) Do you think as a Christian you are affected in any way by the various forms of environmental decay? How?

4) Do you think as a Christian you have any responsibility towards environmental care? How?

5) In your experience as Christians did you ever attend any summon on environment? What was its content and how did it benefit your Christian life?

6) Lack of employment is one of the major contributing factors to environmental decay. In your opinion; do you think the church is doing anything to correct this?
Appendix 9 Interview guide for the forest guards

1) In your own understanding, what is environment?

2) ARK came to this area and implemented various activities on environmental care. What do you think prompted the organization to come?

3) What prompted you to volunteer as forest guards?

4) Are there any forms of environmental decay in this locality? Which are they? Do you think these forms of environmental decay affect you in any way? How and what is ARK doing to correct this?

5) Do you think the church is involved in any way on environmental care? How?

6) Poverty is one of the contributing factors to environmental decay. What is ARK doing to correct this?

7) In your experience as forest guards; are there any significance improvements with regard to environmental decay in this locality since the arrival of ARK? Which are they?

8) Do you think the community is well informed on environmental care through ARK’s activities or more needs to be done?
Appendix 10 Interview guide for ARK staff

1) From your professional view what constitute environment?

2) Based on your understanding, why was this organization started here and what were its objectives?

3) What are some of the challenges you have been encountering in the course of delivering your environmental care programs? What do you think could be the contributing factors to these challenges?

4) Apart from the environmental care services, what other incentives do you offer as a way towards alleviating this notorious problem of environmental decay?

5) According to your experience working with ARK in this region, to what extent is the church supportive?

6) What are some of the challenges faced by the organization as a whole?

7) Is there a legal framework that governs your activities on environmental care? In your opinion, is the legal framework sufficient to ensure that environmental care issues are fully addressed?

8) What are the community’s response in as far as environmental care issues are concerned? In your opinion, are there any improvements or more needs to be done?

9) Has the organization ever thought of the detrimental impacts of the quarries/sandpits in this region? If so, to what extent has it addressed this issue?

10) In your experience in delivering environmental care programs with the various Christian communities in this region, do you think the church is fully informed on environmental care issues? If not, what efforts should the church put in place towards mitigating this problem of environmental decay?