

CHRISTIAN SERVICE UNIVERSITY COLLEGE

DEPARTMENT OF THEOLOGY



ENVIRONMENTAL DEGRADATION

IN THE AMANSIE WEST DISTRICT: THE CHRISTIANS RESPONSE

BY:

TONY GOLDWYN AMOAKOHENE (REV.)

JULY, 2015

**ENVIRONMENTAL DEGRADATION IN THE AMANSIE WEST DISTRICT: THE
CHRISTIANS RESPONSE**

BY

TONY GOLDWYN AMOAKOHENE (REV.)

(10000479)

**THIS LONG ESSAY IS SUBMITTED TO THE CHRISTIAN SERVICE UNIVERSITY
COLLEGE, KUMASI IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR
THE AWARD OF
MASTER OF ARTS DEGREE IN CHRISTIAN MINISTRY WITH MANAGEMENT**

JULY, 2015

DECLARATION

I, Tony Goldwyn Amoakohene do hereby declare that, this dissertation report is the result of my own original research, except for sections for which references have been duly made and to the best of my knowledge no part of it has been presented to this University College or any other institution for the award of degree.

Signature.....
Tony Goldwyn Amoakohene
Date

Signature.....
Robert Owusu Agyarko (PhD)
(Supervisor)
Date

Signature.....
Rev. Ebenezer Adu Ampong
(Head of Department)
Date

DEDICATION

This work is dedicated to God who directed and enabled me to go through this programme. To my beloved, and cherished wife, Rev. (Mrs.) Juliana Amoakohene, and to my four lovely boys; Emmanuel, Ebenezer, Enoch and Eugene. Thank you for your support and encouragement. You are special to me.

ACKNOWLEDGEMENT

To God be the glory for His grace and strength granted me throughout the course of study.

Combining pastoral duties and family matters with my course work, has not been easy. I am grateful to Him for enabling me to organize and manage my time effectively and efficiently.

I owe my supervisor, Dr. Robert Owusu Agyarko, an appreciation for his time and constructive ideas that shaped the end product of this work. It is needful to mention all the lecturers who contributed in no small way during the period of my study: Dr. S. B. Adubofour, Dr. Kwaku Ahenkorah, Dr. George Asumadu, Dr. Yaw Adu Gyamfi, Archbishop Professor Daniel Yinkah Sarfo, Dr. Opoku Amankwaah (KNUST), Dr. Abedu Quarshie, Mr. John K. Ntsiful, Mr. J. K. Turkson (KNUST), and Rev. Prof S.N. Boapeah, who spent time to read through my work during the initial stages. It was such a blessing sitting under you throughout the period of study. The impact you have made is immeasurable. I also want to thank Mr. Francis Benyah for his immense contribution for articles and journals he made available to me.

To the entire class and pioneers of the MACM class of Christian Service University College, your warmth of fellowship and friendship will forever be a nostalgia. I cherish your association. My sincere appreciation also goes to all and sundry, who I may not be able to mention individually, who gave me the opportunity to interact with during my visits to Datano, Aboe, Koniase, and the surrounding villages. My work could not have been complete without you.

Finally, I want to express my profound gratitude to my wife and life-time friend Juliana, my four lovely and elegant gentlemen; Emmanuel, Ebenezer, Enoch and Eugene for their support and understanding. Members of my church board and the entire membership of Living Waters Chapel, Assemblies of God English church. I appreciate your encouragement and support. Especially Mr. Sampson Wireko-Gyebi and Mrs. Eva Boakye-Yiadom who helped me a great deal with the typing of my work. God bless you all.

ABSTRACT

Human activities have over the years destroyed the very environment which has been the basis for the survival of humanity. This is as a result of illegal small scale mining known as “galamsey”. The main objective of the study was to examine the Christian response to the environmental degradation with Amansie West District as the focus of the study. The study employed a qualitative approach as a methodology for the study. The study revealed that some Christians do not have adequate knowledge about their roles to cater and care for the environment. It was also found out that the issue of poverty contributes to environmental degradation. People in the area tend to overuse the natural resources because they do not have anything to eat or any means of getting money except through the natural resources. Poor people often lack sufficient income and education to afford higher quality life. The study further revealed that some communities are denied access to good drinking water due to mining operations. The problems of environmental degradation and water availability has also meant that in some areas, affected communities rely to a great extent, particularly in the dry season, on water sources that are increasingly polluted by chemicals from mining operations. There is the need for the churches to have a theological reflection that will help to change their attitude towards the environment. Churches should also teach their members that the environment belongs primarily to them, and they must take the responsibility for the land and organize themselves in groups, cooperatives, development associations and local associations to defend it. There is also the need for churches to set up of a Christian Fund to support environmental awareness projects.

TABLE OF CONTENT

DEDICATION.....	ii
ACKNOWLEDGEMENT	iii
ABSTRACT.....	iv
CHAPTER ONE.....	1
GENERAL INTRODUCTION.....	1
1.1 Background to the Study.....	1
1.2 Statement of Problem.....	2
1.3 Research Questions	3
1.4 Aims and Objectives of the Study.....	4
1.5 Scope and Focus of the Study	4
1.6 Methodology	4
1.6.1 Methods of Data Collection	5
1.6.1.2 Primary Sources	5
1.6.1.2 Secondary Sources	5
1.6.2 Samples and Sampling Procedure/Techniques	5
1.7 Literature Review	6
1.7.1 Ecology and Environmental Stewardship	9
1.8 Significance of the Study	10
1.9 Organization of chapters	10
1.10 Definition of terms	11
1.10.1 Galamsey.....	11
1.10.2 Environmental Degradation	12
CHAPTER TWO	13
THE BIBLE AND THE ENVIRONMENT	13
2.1 Introduction.....	13
2.2 Creation: Biblical View.....	13

2.3 The Bible and Sanitation	16
2.4 Christian Stewardship and the Environment	19
2.5 Conclusion.....	21
CHAPTER THREE	23
AMANSIE WEST DISTRICT AND ENVIRONMENTAL CRISIS	23
3.1 Introduction	23
3.2 Brief Profile of the Amansie West District	24
3.2.1 Administration and Political Structure.....	24
3.2.2 Location and Size	24
3.2.4 Climate	25
3.2.5 Galamsey Activities and its effects on the Soil.....	26
3.2.6 Climate Change and Mineral Deposits	27
3.3 Environmental Degradation and Pollution.....	28
3.4 General overview of Small Scale Gold Mining Industry in Ghana	31
3.4.1 Management of Environment and Small Scale Gold Mining	33
3.5.1 Excavation and Construction of Pits for Gold Ore Removal	35
3.5.2 Effect of pit excavation on Environment	35
3.5.3 Tailings Disposal and Environment	36
3.5.4 Mercury Amalgam Process	36
3.6 Unlicensed Small Scale Gold Mining “Galamsey” Activities.....	37
3.6.1 Unlicensed Mining Processes.....	37
3.6.2 Construction of Pit and Disposal of Tailings	37
3.6.3 Small Scale Gold Mining Processes and Environment.....	38
3.7 Small Scale Gold mining in the Amansie West District and its effects on the community.....	38
3.8 Conclusion.....	39
CHAPTER FOUR	40

THE CHURCHES RESPONSE TO ENVIRONMENTAL CRISIS IN THE AMANSIE WEST DISTRICT	40
4.1 Introduction	40
4.2 The Christian and the Environment	41
4.3 The Christian relationship to Creation	44
4.4 The Church in the Amansie West and its response to Environmental Degradation	46
4.5 Practical ways the Church can care for the Environment	48
4.6 The Church and Earthly Theological Agenda.....	52
4.7 Conclusion.....	55
CHAPTER FIVE	57
SUMMARY, CONCLUSION AND RECOMMENDATION	57
5.1 Summary	57
5.2 Conclusion.....	57
5.3 Recommendations	58
BIBLIOGRAPHY	60
APPENDIX 1	
INTERVIEW GUIDE FOR CHURCH PASTORS	
APPENDIX 2	
INTERVIEW GUIDE FOR PEOPLE IN ABORE, DATANO, KONIASE COMMUNITIES	
APPENDIX 3	

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Background to the Study

Human activities have over the years destroyed the very environment which has been the basis for the survival of humanity. Illegal Small Scale Mining popularly known as “galamsey” has been on top of Ghanaian issues with respect to environmental degradation.

The spate at which lands in the country are being degraded in the name of small scale mining leaves much to be desired. As these illegal gold dealers destroy the environment through illegal mining they make huge returns from their operations. So lucrative is the galamsey business that, foreign nationals including Chinese have ventured into it and are destroying the environment with reckless abandon.

Dr. Ebenezer Owusu-Sekyere, Senior Research Scientist at the Forestry Research Institute of Ghana (FORIG), has said small scale mining has led to the degradation of about 15,000 hectares of land in the country. He said the lands have been stripped bare of vegetation, lost the top soils and left with deep underground uncovered water pits. "Their activities are having serious environmental effects, the loss of flora and fauna habitats, water contamination and deficiency," he said. He was addressing a day's workshop to help equip 60 selected opinion leaders from Yaw Kasakrom, a mining community in the Amansie West District, with the requisite skills to negotiate for crop and land use compensation with mining concessionaires.¹

The President of Ghana Hon. John Mahama has also pointed out that the cost of galamsey is a constraint to the potentials of Ghana to achieve sustainable development, saying the country's ability to mitigate that cost would improve the living standards of Ghanaians. He noted that the

¹ <http://amansiewest.ghanadistricts.gov.gh/?arrow=nws&read=30089>

cost of environmental degradation and its effects on climate change has exacerbated poverty in the country. According to him “combined with the rapid depletion of mineral resources, these could undermine Ghana’s prospects of sustainable development, unless the country manages to better protect her environment and convert the remaining part of her depleted natural resources into social, human and infrastructure capital, converting adversity to opportunities for sustained growth”.²

In the Amansie West District which serves as the immediate geographical context for this study and other part of the country, the issue of galamsey, environmentally unfriendly methods of fishing, and farming activities pose threat to the sustainability of the natural environment.

A lot of farmlands and other water bodies which serve as livelihood for people have all been destroyed. Family lands which are to serve the unborn generation have all been destroyed by illegal mining activities. The researcher sees these unfriendly attitude towards the environment as very detrimental to the future of the unborn generation. The church which also has the mandate to educate people and address issues relating to environmental degradation seems to be unconcerned. It is a way of getting the church sensitized on environmental degradation that this study is being undertaken.

1.2 Statement of Problem

From the foregoing discussion, it is clear that the planet earth is under serious attack. The constant use of jargons like ‘greenhouse gases’, ‘global warming’, ‘desertification’, ‘ozone depletion’ and the global impact of these issues leave the human populace with a feeling of helplessness. As indicated earlier on, the ecosphere around us is the handiwork of the Creator God. The same God who created the universe also created humankind. There is thus, a created

² Ghana News Agency, “Cost of environmental degradation is 3.7 per cent of GDP - President Mahama” <http://www.modernghana.com/news/421377/1/cost-of-environmental-degradation-is-37-per-cent-o.html>. (Accessed on 19th August, 2014).

resonance between humans and the universe. Nature possesses an inbuilt ability to act as a sign to its creator. Therefore, the destruction of the environment is inimical to human existence.

The environmental crisis in Ghana is a scientific problem, an economic problem, a political problem, a security problem and a moral problem. It is a matter of life and death of millions. But at its root, it is also a spiritual problem. The church, if properly functioning in the full power of God, is the only institution available to the human race that can address a problem of such dimensions. The church is capable of addressing every issue: repentance from sin, motivation for individual action, courage and influence to change corporate behavior and the ability to recruit and mobilize millions of people to move creation and do everything from street cleaning to tree planting. However, tackling environmental degradation seems to have been neglected by the church as part of its missionary mandate. The researcher can argue strongly that the church has not done much as part of its mission to safeguard the integrity of creation, and renew and sustain the life of the earth.

The researcher believes that there is a clarion call by God to all Christians to be good stewards of His creation in their respective houses, societies, communities, districts and regions in order to be good stewards to render a good and reliable account to the Savior on the responsible use of endowed resources. The church must begin to develop God-centered strategies to educate, disciple and mobilize its entire membership to action. A mobilized church can make an impact. In Roman 8:19, creation awaits the Son of God to be revealed.

1.3 Research Questions

- i. To what extent has the Church been able to respond adequately to the environmental issues at Amansie West District?

Sub questions

- i. What is the Christian's responsibility to the environmental degradation?

- ii. What is the concept of stewardship from biblical perspective?

1.4 Aims and Objectives of the Study

The study sought to:

- i. Find the extent of environmental degradation of Amansie West District by galamsey activities.
- ii. Find the extent of the church's involvement in mitigating the environmental degradation.
- iii. Examine whether or not the church is responding adequately to the environmental issues in Ghana with specific reference to the Amansie West District of the Ashanti Region.

1.5 Scope and Focus of the Study

Environmental degradation covers many dimensions, from depletion of the ozone layer, destruction of water bodies and biodiversity, deforestation among others. The focus of this study is on the illegal small scale mining activities in the Amansie West District and how these activities have destroyed farmlands and people's properties.

1.6 Methodology

Generally, this is a qualitative study. The researcher understands a qualitative approach as one that does not use statistical procedures or methods of quantification as primary tools to understand the object of research.³ Qualitative methods in this study refer to “a non-mathematical process of interpretation, carried out for the purpose of discovering concepts and relationships in raw data and then organizing these into a theoretical explanatory scheme.”⁴ It also seeks to collect data on the “perceptions of local actors from inside, through a process of

³ A. L. Strauss & J. M. Corbin, *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. 2nd ed., (California: Sage Publications, 1998), 10.

⁴ Strauss & Corbin, *Basics of Qualitative Research*, 11.

deep attentiveness.” Thus, qualitative methods take an “internal approach” to understand a subject. Qualitative research is often used to analyze information conveyed through language and behavior in natural settings. It is used to capture expressive information and observe behavior or practices not conveyed in quantitative data about beliefs, values and feelings.

1.6.1 Methods of Data Collection

Both primary and secondary sources of interview were used.

1.6.1.2 Primary Sources

Some material required for the work was gathered through interviewing selected individuals and authorities as far as environmental issues in Ghana are concerned. Research instruments that were used included both structured and unstructured interviews. The sample questionnaire and period of study in the appendix.

1.6.1.2 Secondary Sources

Because of the focus and scope of the study, the researcher plans consulted different secondary sources including books, theses, journals, articles etc, relevant to this work. These are published and unpublished material of scholarly opinion. In addition, relevant use was made of, dictionaries, encyclopedia, newspaper publication and articles.

1.6.2 Samples and Sampling Procedure/Techniques

In this study, the people to interview were many so the researcher employed the purposive sampling technique to select the respondents. In his work, *Research Methods Techniques of Social Research*, Tom K.B. Kumekpor states that in purposive sampling, “the units of the sample are selected not by a random procedure, but they are intentionally picked for study because they satisfy certain qualities which are not randomly distributed but they are typical or

they exhibit most of the characteristics of interest to the study.”⁵ The categories of people that the researcher interviewed included the resident pastor of Church of Pentecost, the Methodist Church and the Christ Apostolic Church. The researcher also interviewed some fifteen individual residents of the various towns in the districts where illegal mining (galamsey) is at its peak to see how these activities affect their lives and properties and the impact it has on them and the future generation.

1.7 Literature Review

Environmental degradation has become a serious concern to the people of Amansie West as well as Ghanaians as a whole. Interested people like environmentalists, Christians, politicians, and social organizations, have written on environmental degradation.

John Stott writes on the problems that environmental pollution creates for humanity. He has notes that the greatest threat to the human race is environmental rather than nuclear destruction.⁶ In his work, he mentions four things that are working together to destroy the natural environment rapid population growth, resource depletion and biodiversity, waste disposal and atmospheric damage which results from poisonous chemicals to the atmosphere which depletes the protective ozone layer. He explains that these causes are related to one another and constitute a single “interlocking global crisis”.⁷ He therefore calls on Christians to do something to help solve the environmental problems facing humankind but he fails to mention the specific roles that religion may play in the fight against environmental degradation which the researcher attempts to look at.

⁵ Tom K. B. Kumekpor, *Research Methods and Techniques of Social Research: Sections 1 - 3*, Accra: Ghana, SonLife Press & Services, 2002, 74.

⁶ John, Stott. *New Issues Facing Christians Today*, Great Britain: Creative Print and Design, 1999, 124-130.

⁷ Stott. *New Issues Facing Christians Today*, 125

In a further argument, Richard Young postulate that the ecological crisis has presented a significant challenge to traditional Christianity. According to him, there are several reasons for a positive Christian response. First, there is still a need to vindicate Christianity and the scriptures from misguided accusations. Many eco-activists have generalized set of indictments against the Christian faith. Christianity is still being represented as opposed to nature and as the cause of the present ecological crisis. Believers should be able to repudiate such notions and demonstrate by a transformed life that Christianity is not a threat to the environment.⁸

Lynn White blames Christianity for the deterioration of the natural environment because of its attitudes towards nature. He supports his argument with the following reasons: “That Christianity’s victory over animism makes Christians down upon nature and therefore takes away the restraints that prevent people from treating nature badly.”⁹ Since many Christians believe that animals and plants do not have spirits, and therefore their destruction may not create problems for them spiritually, they may be tempted to handle and use them irresponsibly. That according to Genesis, the main purpose of nature is to serve human needs. That humankind’s transcendence over nature gives them the right to manipulate it to suit their own interest.

Lynn’s response may not be enough to curtail all the environmental problems in this study because he fails to admonish Christians for them to know that animals and plants have the right to exist and have spirits and a role to perform in environmental protection.

Against this, Young argues that if the Christian view of nature is interpreted rightly from scripture, none of the issues raised by Lynn White would be accepted. He argues that the Bible has a lot of ecological wisdom but they were relegated to the background by the Protestants

⁸ Richard. A. Young. *Healing the Earth: A Theocratic Perspective on Environmental Problems and their Solutions*, Nashville, Tennessee: Broadman and Holman Publishers, 1994.

⁹ Lynn White. Jr., “*The Historical Roots of our Ecological Crisis*” in Granberg – Michaelson, W. *Ecology and Life: Accepting our Environmental Responsibility*, Texas: Word Books, 1988, 5.

tradition in the West. He believes that if the Christian view of nature is interpreted through the theo-centric framework, we may get a very reliable alternative to analyze and resolve the environmental problem. The theo-centric framework teaches that, “God is the centre of the universe and that He alone is the source and upholder of meaning, purpose, value and ethics, as well as the unifying principle of the cosmos”. Everything finds existence, value, purpose and meaning in the infinite and transcendent God.¹⁰

His response to Lynn White was appropriate but we believe that a combination of indigenous knowledge of conservation and some theo-centric principles could solve the ecological crisis in Ghana. It can be argued that, Christians may care to reconsider their position. But then, the question that arises is, what is our responsibility for the environment; the natural context of our lives and culture? Is it really our duty to use all things so as to preserve and elevate the distinctive human life?

J.O.Y Mante does not understand why the non-human environment which plays a larger role in Africa should be ignored when theologizing. To him, the non-human environment pervades all African symbolic thoughts and world-views. He also says that the current destruction of the ecosystems should be taken seriously in our theological construction. According to him, faulty Protestant theological anthropology, which does not only distinctly separate human beings from nature, but also sets the human being over and above nature is not good for Africans. Mante emphasizes the need for humans to live in harmony with the non-human environment.¹¹ We agree with him in raising this religious response to help solve the ecological crisis to some extent. We think until Africans will go back to use totemism, punishments, restrictions, taboos

¹⁰ Young, *Healing the Earth*, 265.

¹¹ J.O.Y. Mante, *Africa Theological and Philosophical Roots of our Ecological Crisis*, Accra: Son Life Press, 2004, 7.

and holidays to prevent people from destroying the environment, destruction of nature will continue.

1.7.1 Ecology and Environmental Stewardship

Gecaga defines ecology as “... that branch of biology which deals with the relation of living organisms to their surroundings”.¹² She asserts that it is an emerging discipline which combines insights from many sciences like: Genetics, Biochemistry, Zoology, Chemistry and Geography. The factors that she thinks lead to ecological degradation are technology, the arrogance of the technological personnel, skewed values and visions of society. She cites authors who have attributed the anthropocentric and aggressive attitude towards nature to the Christian idea of human sovereignty over all other creatures. She argues that stewardship involves accountability so we are all answerable to God for the way we manage this world during our time here and now. This in her opinion suggests an active and creative role in respect of the earth for which we have been given responsibility.¹³

D. Edwards believes that one of the important resources that can help solve the environmental problems is religious faith because it can provide an ecological ethos and a foundation for an ecological ethics. He also believes that the central task of Christian theology in our time should manifest the ecological dimensions of the Christian tradition.¹⁴ He also asserts that many people have now understood clearly that love and respect for God should lead to love and respect for what God has created. Edwards accordingly suggests these two aspects of the Christian theology of God as the understanding that God is relational and the concept of God as self-expressive can provide the best theological foundation for an ecological praxis.¹⁵

¹² M.G. Gecaga. *Creative Stewardship for a New Earth* in Getui, M.N. & Obeng, E.A. (eds.) Kenya: Acton Publishers, Nairobi, 2003.

¹³ Gecaga *Creative Stewardship for a New Earth*, 15.

¹⁴ D. Edwards, “*Theological Foundations for Ecological Praxis*”, in M. Grey & C Deane-Drummond(eds), *Eco-theology*, England: Sheffield Academic Press Limited, 1998, 126-141.

¹⁵ Edwards, *Theological Foundations for Ecological Praxis*, 128.

1.8 Significance of the Study

The dilemma that serves as an impetus for this study is how Christians can live in an environment when the very things one needs to live on are being destroyed indiscriminately. Thankfully, God came to us and showed us how we can live here as we will in heaven. Creation must be cared for because God made it, because He made it as a worship space in which we could meet Him because He Himself walked along its paths and sat under its trees.

Firstly, this work seeks to inform the Christian faithful's, about what is happening to our environment and to see the stewardship of the earth as a necessary part of Christian discipleship

Secondly, it reflects, on scripture and Christian tradition in the light of the ecological crisis and consequently brings faith into an effective engagement with the pursuit of a more sustainable way of life. Thirdly, the work will increase the awareness of Christians to environmental damage and the need for conservation. It will also encourage responsible stewardship and stimulate the development of a Christian understanding of the environment and the way in which human society interacts with it. Finally, it will stimulate action locally, nationally and internationally in pursuit of environmental protection and sustainable development. The church is to serve as a model in its own use of resources and care of God's human and non-human creation.

1.9 Organization of chapters

This research work is organized under five chapters. Chapter one deals with the introductory issues; it gives the background to the study, the statement of the problem, research questions, aims and objectives, scope and focus of the study, the methodology adopted to achieve the objectives of the research as well. Relevant literatures on the subject under study are also examined. This is followed by organization of chapters, and significance of the study.

Chapter two focuses more on the Bible and the environment by drawing out some implications of our God-given mandate to safeguard the integrity of creation and renew it. It further discusses the concept of stewardship and highlight the responsibility of the Christian and the church towards the environment.

Chapter three focuses on the Amansie West District of the Ashanti Region; it specifically discusses the activities of galamsey workers and how that has affected the environment. It further highlights some important environmental issue in the Kumasi Metropolis as well.

Chapter four is an analysis of the issues that emerges out of the previous chapters. It is an attempt to discuss the effects of galamsey and other environmental activities that have negative effects on the land and on the livelihood of people in affected communities.

The summary, recommendations and conclusions that emerge from the study are presented in chapter five.

1.10 Definition of terms

Situating key words or terms within the framework of a given study is an integral part of scholarship.¹⁶ This helps to contextually delineate such terms by clarifying their usage for understanding.¹⁷ In this work, such term are galamsey and environment degradation.

1.10.1 Galamsey

Galamsey mining is a mining activity which is independent from the mining companies. Illegal miners usually dig small pits, tunnels and sluices by hand. Generally, the people who do galamsey operators can dig only to a limited depth, far shallower and smaller than commercial mining companies. In Ghana currently, it is illegal to dig on land granted to mining companies

¹⁶ Gerrier ter Haar, "World Religions and Community Religions: Where does Africa fit in?" Occasional Paper Centre for African Studies, University of Copenhagen, August 2001, 1.

¹⁷ Graham, Harvey, *Animism: Respecting the Living World* London: Hurst and Company, 2005, xvii.

as concessions or licenses. Most people doing galamsey find gold in free metallic dust form or they process oxide or sulphide gold ore using liquid mercury. The number of people doing galamsey in Ghana is unknown, but it is believed to be from 20,000 to 50,000. They mostly operate in the southern part of the country where there are substantial reserves of gold deposits, usually within the concession of the larger mining companies.

1.10.2 Environmental Degradation

Environmental degradation is defined as any threat towards the survival of the ecosystem, caused by the deterioration of resources such as air, water and soil. Environmental degradation represents the greatest challenge facing the world today because it poses not only as a threat to the survival of the ecosystem but also to our existence and the security of states. Thus environmental degradation has a substantial influence on the economic, social and political sphere thus posing as the greatest challenges to overcome today.

CHAPTER TWO

THE BIBLE AND ENVIRONMENTAL STEWARDSHIP

2.1 Introduction

As a sampling of what the Old Testament has to say concerning ecology, this study surveys some parts of the creation account in Genesis, the Psalms, and the Deuteronomic Corpus. This chapter particularly deals with a Biblical view of creation, the Bible and the issue of sanitation. It also touches on environmental stewardship and brings to bear our Christian responsibility towards the sustainability of the environment. In discussing the issue of sanitation, it examines, first the relationship between God and the earth, then the relationship between the people and the land. The discussion on stewardship is crucial because there is an urgent need to inform the faithful Christians about what is happening to our environment and to see the stewardship of God's earth for the care of our neighbors as a necessary part of Christian discipleship.

A careful look at the biblical texts informs the Christian community and helps members to understand their God-given mandate. The discussion is a road map through key biblical texts that can inform our perspective on environmental and ecological issues.

2.2 Creation: Biblical View

“The earth is the Lord's, and everything in it” (Psalm 24:1 NIV). God is its creator, and so by right of creation is also its owner. The earth belongs to both God and man - to God because He made it, to us because He has given it to us.¹⁸ He continues to argue that, not of course that he has handed it over to us so completely as to retain neither rights nor control over it, but that he has given it to us to rule on His behalf. Our possession of the earth is leasehold, therefore, not

¹⁸John Stott, *Issues facing Christians today* London: Marshall Pickering, 1990, 117.

freehold. We are only tenants; God himself remains (in the most literal sense) the “landlord”, the Lord of all the land.¹⁹

Generally, it is the doctrine of creation which provides the focus of Christian considerations of the environment. This world is God’s world. The personal, powerful, wise and loving God designed it as a rightful place for Him to live with us and for us to enjoy Him. All that mankind need in order to sustain lives in fellowship with Him has been provided. The two fold account of creation in Genesis chapter 1 and 2 makes it plain that God designed the world as a perfect place, with mankind as the focus of the physical creation. Genesis 1:20-31 indicates creation is important, God says it is good; mankind is a part of that creation and, as such, has an essential role to play in maintaining it vv. 28, 29.

John Davies has argued on his reflection on Genesis chapter one and two that mankind is the climax and the primary concern of God’s creative activity.²⁰ Davies argues further that, Lynn White was one of the first to charge Christianity with being bankrupt of the values which would tend to the conservation of the planet, and with being responsible for the greed and arrogance of our species.²¹ According to him, “it has become common place among conservationists to applaud the spiritual values of animism, or of Eastern Religions, in which each living thing finds its significance apart from mankind, and either has its own spirit-force or is absorbed into the cosmic whole. There is also considerable embarrassment on the part of many Christians and a rush to deny an anthropocentric cast to the Christian view of the world”.²²

Nonetheless, it is very important to state that, the creation cannot be understood apart from its purpose. True, individual elements of creation can be said to praise God, apart from any explicit

¹⁹ Stott, *Issues facing Christians today*, 118.

²⁰ John A. Davies, “Toward a Biblical Theology of the Environment”, <http://reformedperspective.org/articles>, (accessed on the 15th of September, 2014), 2.

²¹ Davies, *Toward a Biblical Theology of the Environment*, 4.

²² Davies, *Toward a Biblical Theology of the Environment*, 5.

reference to their relation to humanity. Trees, hills, and rivers, can be called upon to praise God, or are said to be there for God's glory and enjoyment, though even with such references, the contexts suggest that the knowledge by mankind of such activities or created purposes will affect our perceptions and responses.

But it is through relationship with the "image of God" that every aspect of creation finds significance. A point often overlooked is the role of Christ in the creation process. Not only is he the one through whom all things were created, but He is also the one (as the image of God par excellence, Colossians 1:15-16) for whom they were created. The anthropocentric focus is not superseded, but rather sharpened by the Christological context.²³

Most importantly, Psalm 108 greatly gives a glimpse on the account of creation in Genesis 1. It also reveals how wonderful the handy works of God are and again offers us a very good point for reflection on the creation of God. In Psalm 104:24, the scripture reads; "How many are your works, O Lord! In wisdom you made them all; the earth is full of your creatures." The text reframes our reflection on environmental issues by affirming that what we call the "environment" as God's creation, and it challenges to us to ask what that might mean. According to Michael Bullmore, the contribution of Psalm 104 can be summarized as follows:

One, God created the earth and all things in it, and he continues to sustain the earth and all things in it by the loving exercise of his sovereign power. Two, the earth and all things in it belong to God by virtue of his creative work, and all things find their reason for being fundamentally in relation to him. Three, the earth and all things in it were created perfectly-- each creature in itself and the entire creation in its interrelatedness. And finally even after the entrance of sin into the created order this perfection still shines through so as to be perceivable by man.²⁴

²³ Davies, *Toward a Biblical Theology of the Environment*, 7.

²⁴ Michael A. Bullmore, "The four most important biblical passages for a Christian Environmentalism", *Trinity Journal* 19 NS (1998) 139-162.

This seeks to suggest that creation continually bears witness to the perfections of God and promotes in man praise toward God. While the foundational truth of God’s creative work operates as an underlying assumption throughout most of Psalm 104, there are a few places where the psalmist explicitly asserts it (e.g., vv. 5-6), and there is a fairly obvious structural parallel between Psalm 104 and the creation account in Genesis 1. This parallelism supports the arguments in this study for it argues that Psalm 104 is a self-conscious attempt to interpret and flesh out the Genesis account. For at a moment of culmination in the Psalm, the psalmist breaks out with the passionate declaration to God, “Thou hast made. . .” (v. 24). Clearly, the heavens and earth exist as a result of the exercise of God’s sovereign creativity. The unique emphasis of this Psalm, however, is on God’s sustenance of his creation. “He makes springs pour water. . . . He waters the mountains. . . . He makes grass grow.” All creatures are completely dependent on God. When God provides, His creatures are satisfied (v. 28). When He “hides his face,” they are terrified (v. 29). When God sends His “Spirit,” there is new life (v. 30). When He takes breath away, life ceases (v. 29). This portrays a significant extension of the Genesis account. It clearly demonstrates that creation exists only because it was called into existence by God. But it continues to exist only because of the continuous care of its Creator. As God’s children, we have the responsibility to appreciate God’s creation, maintain and sustain it. Failure to fulfill this biblical mandate might result in doom.

2.3 The Bible and Sanitation

Joseph Quayesi-Amakye has argued that the Bible obviously has positions on what to do with the environment.²⁵ According to him, the Gospel narratives of Jesus’ feeding of the five thousand (Matthew 14:21; Luke 9:14; John 6:10; Mark 8:9) present us with very discerning information about His attitude to environmental matters. In these narratives we are told that

²⁵ Joseph Quayesi-Amakye, “Holy Jesus in a Dirty Environment: Appraising the Ghanaian Church’s attitude to environmental matters” *Ogbomoso Journal of Theology*, Vol. XVII (1) (2012), 120.

after multiplying the few loaves of bread and fish for the hungry audience to eat, Jesus instructed his disciples to gather the crumbs. Amakye argues that, “superficially, the story reveals Jesus’ miracle working power. But there are theological and socio-cultural and economic lobes underlining this. In fact, it places Jesus in theological continuity with Old Testament prophets like Elisha in their concern for the people’s welfare (2 Kings 4:42). Nonetheless Jesus’ approach goes beyond Elisha’s to draw in the Mosaic injunction on the right attitude to the environment.”²⁶

Again, one major theme of Deuteronomy is that God’s covenantal gift of the land came with a warning: the Israelites were not to forget God’s commandments; if they did, they would lose the land. In Deuteronomy 8:7-9, the scripture says:

... the Lord your God is bringing you into a good land, a land with flowing streams, with springs and underground waters welling up in valleys and hills, a land of wheat and barley, of wines and fig trees and pomegranates, a land of olive trees and honey, a land where you may eat bread without scarcity, where you will lack nothing. Take care that you do not forget the Lord your God, by failing to keep his commandments, his ordinances, and his statutes, which I am commanding you today. When you have eaten your fill and have built fine houses and live in them, and when your herds and flocks have multiplied, and your silver and gold is multiplied, and all that you have is multiplied, then do not exalt yourself, forgetting the Lord your God, who brought you out of the land of Egypt, out of the house of slavery ... If you do forget the Lord your God and follow other gods to serve and worship them, I solemnly warn you today that you shall surely perish. (NIV)

The key commandments the text refers to are two: first, that the Israelites were to love the Lord, the giver of the land, with all of their hearts; second, they were to ground their use of the land in justice and only justice. Or, as Leviticus put it, they were to love their neighbors as themselves.

Generally, people interpret those mandates to pursue justice and to love our neighbors as referring only to social justice and human neighbors. Those are obviously important themes of the Bible, but Exodus and Leviticus remind us that the land and the creatures of the land are

²⁶ Amakye, “Holy Jesus in a Dirty Environment”, 121.

also to be treated justly. Sometimes, people tend to forget that requirement because modernity has led us to see land as a commodity that we are free to buy, sell, or simply abandon whenever doing so seems economically expedient. Commercial agriculture sees land as nothing but dirt. The Biblical understanding of land is much more sophisticated. Deuteronomy 30 puts it sharply: land is the source of death and adversity. With fertile land, the Israelites would flourish. Without it, they would die.

That understanding emerged from centuries of wandering through the ecological mosaic of the Ancient Near East. It was sharpened by difficulties the Israelites encountered in farming the hill country of Judea. The soil was thin and easily eroded. The rain was sparse and came in the winter, the wrong time of year. And those winter storms could be ferocious, quickly stripping the land of the topsoil that meant life. The challenge was to persuade that winter rain to soak into the soil so that it could water summer crops. There must have been many failures, but in the end the Israelites learned how to farm even on that difficult land: how to prevent erosion by terracing the hills; how to replace lost nutrients by fertilizing with animal wastes; and how to keep the soil loose and permeable by allowing the land to lie fallow on a regular basis. That act of caring for the land gave Israel and its people a sense of being rooted in authentic relationship with the land, a rootedness that turned the task of tending the land into a vocation that conferred identity and meaning, and gave life purpose.

Our task today is remarkably similar. The Israelites lived in a fragile land. They quickly learned the need to care for the poor of the land. We also live in a more robust environment, and until recently it seemed that we could ignore biblical mandates about how to live with God's creation. But our collective impact on the global environmental system has increased catastrophically in the last half century, and we now find ourselves in a situation much like that of the Israelites. To continue to flourish, we must read the signs of nature and of society as

accurately as the prophets and Jesus did. We must find ways of living that enable all to flourish the ecological community and the human community, especially the least of both communities. In Deuteronomy (23:13) Moses commanded the Israelites in the wilderness Israelites to keep their environment clean because the LORD was in the midst of their camp. The Israelites were particularly commanded to carry digging tools along any time they went out to attend to nature's call outside the camp in order to prevent any environmental hazards. This is what often goes unnoticed in the reading of the Jesus story. Some have wrongly surmised that Jesus ordered the basketfuls of crumbs to be given to the lad who gave his lunch to feed the hungry multitude as a reward of his generosity but the import of the story is about Jesus' attitude towards environmental cleanliness.

2.4 Christian Stewardship and the Environment

One word that will be of significance to majority of Christians when it comes to the relationship between human beings and the natural environment, is "stewardship". Genesis says that the newly created human species should 'have dominion' over every living thing (1:26); and there is the further detail in Genesis 2:15: 'God took the man and put him in the Garden of Eden to till it and keep it'. These verses have generally been taken to be the basis for the idea that humans have a certain responsibility to the earth, there is little detail as to what form that should take, beyond the good agricultural practices set out, for example, in the Sabbath principles in Deuteronomy.

The earth is full of His creatures (Psalm 104:24). The cosmos in all its beauty, wilderness, hues and life-giving bounty is the work of our personal and loving Creator. Although the unimaginable vastness of the universe with galaxies of sun and bathed in streams of cosmic radiation, is His handwork, the Creator has also filled this earth with millions of species of living things.

Humanity is charged with the tending of creation (Genesis 2:15) in the full knowledge that creation is the cherished possession of God and has entrusted to humans to act as its steward and not its exploiter. Humanity is distinguished from the rest of the creation by being created in the image of God. This distinction involves the delegation of responsibility rather than the conferral of privilege and cannot be seen as offering legitimacy to environmental exploitation or degradation. Thus, it is a covenant which involves the stewardship of keeping and tending the land for the present and future generations.

The Lord forbids deforestation, 'Do not destroy its trees by putting an axe to them, because you can eat their fruit. Do not cut them down' (Deuteronomy 20:19 NIV). Creation bears witness to the glory of the creator: 'The Heavens declare the glory of God; the skies proclaim the work of His hands'. (Psalm 19:1 NIV).

The steward assumes his responsibility to love and care for the creation as an important part of God's redemptive plan. Integral to this is the idea that the earth belongs to the Lord and it is not ours (Psalm 24:1: 'The earth is the Lord's and all that is in it' (Psalm 24). The earth belongs to Him by creation (Job 38:4-6), sustenance (Mathew 6:26) and redemption (Colossians 1:15-2).

At the beginning of Leviticus 25, God tells Moses on Sinai that he is giving the people of Israel their land, and follows this with a long list of instructions on how to look after it. Whether such a gift remains in the possession of the giver is an arguable point. According to Paul Jewitt, since God made the world, 'we live in the world as his tenants', a statement which seems to downgrade the role of human beings in the created order, and conveniently overlooks the fact that tenants care much less for land or property than does an owner.

It is surely stretching the purpose of what used to be called the parable for the unjust steward in Luke 16 to see in it an allegory of God the Creator confronting humankind's failure to care for the earth. Yet traditionally, theological statements about creation have tended to focus on a

certain human duty that arises out of respect for God's creation, alongside the response of worship that creation evokes.

In this view, conservation has mainly been seen as a Christian duty, and one that is based on a fairly slight biblical foundation. And the natural environment has been viewed as something quite separate from human beings, with no real suggestion of any close interaction or interconnectedness. For Christians to take environmental degradation seriously, there is the need to bring out this relationship of interconnectedness and set it at the heart of the Christian faith.

In the view of Awortwi & Awortwi, everyone who believes in God should consider it a religious obligation to uphold and protect the earth God has created for our life and sustenance and pass the practice on to future generations.²⁷ According to them Christians are to help protect the environment as a religious obligation. It presupposes that all negative acts against the environment are negation of obligation. In the view of Norman, the Christian believes in the proper respect for and use of natural resources. The respectful utilization of our physical environment grows out of the Christian concept of creation and our divinely appointed obligation to be good stewards of what God has given us.²⁸ According to him Christians are to respect God's creation by our attitude being stewards of what God has given us. However, the writer does not tell us how we can be stewards of what God has given us.

2.5 Conclusion

In scripture, God has clearly revealed how important the land and whole of nature are to him. The Bible reveals the richness, the beauty and the diversity which God's creation brings to our lives, leading us to a greater appreciation of the wisdom and grandeur of God (Psalm 104). All

²⁷ S., Awortwi, & A. H. Awortwi, *Mind Your Environment: It is your life support*, (2010), 19.

²⁸ Norman, L. Geisler, *Christian Ethics: Contemporary issues and options* (Grand Rapids, Michigan: Baker Academic Publishing Group, 2010), 315.

the texts that have been examined in this chapter are crucial because they reframe our reflection on environmental issues by affirming that what we call the “environment” is God’s creation, and they challenge mankind to ask what that might mean. The scriptures clearly reveal that as humans, we have a divine mandate and a mission to care and maintain the environment as the garden of the Almighty God.

On a biblical view, each aspect of God’s creation has value not at the expense of the centrality of mankind, but precisely in relation to that special place which we occupy under God.

CHAPTER THREE

AMANSIE WEST DISTRICT AND ENVIRONMENTAL CRISIS

3.1 Introduction

Like many other developing countries, Ghana's economic growth is to a greater extent dependent on her natural resource endowments. Invariably, minerals have the potential to contribute significantly to a country's Gross Domestic Product (GDP) export revenues and tax receipts, contribute to poverty alleviation and broaden economic development at both local and national levels. Mining of gold, bauxite, diamond, salt and other minerals has contributed a lot to the economy of many countries including Ghana. It is estimated that mining is the second highest foreign exchange earner for Ghana. Some mining companies have offered employment for the youth of their communities and have built schools, hospitals and provided bore-hole water and other social amenities. In some communities the malaria cases among the people have reduced considerably because the mining company undertakes periodic spraying of the houses of the people.

In spite of the obvious economic and social advantages of mining these minerals, the negative effects are also great. The issue is how these minerals can be exploited in such a way as to minimize the negative economic, health and sociological effects on society and the environment.

This chapter takes a closer look at the situation in the Amansie West District by examining the mining situation in the various communities. It discusses the deplorable state of the district and how God's creation is found in crisis in those areas of the country. It also touches on pollution and environmental degradation.

3.2 Brief Profile of the Amansie West District

3.2.1 Administration and Political Structure

The Amansie West District Assembly was established by Legislative Instrument (L. I.) 1403, 1988 as part of Ghana's Decentralization Policy to bring governance to the doorsteps of the citizenry. It was carved out of the former Amansie District. The District is divided into 12 area councils which is further divided into 53 electoral areas. The Assembly has 76 members, made up of 53 elected and 23 appointed members. It has two electoral constituencies, namely Manso Nkwanta and Manso Edubia respectively with two Members of Parliament.²⁹

3.2.2 Location and Size

The District is located at the south-western part of Ashanti Region. It shares boundaries with Bekwai Municipal and Atwima Kwanwoma Districts to the east, Atwima Nwabiagya to the south, all in Ashanti Region. It also shares boundaries to the north with Upper Denkyira in the Central Region and Bibiani Anwhiaso-Bekwai in the Western Region of Ghana. The Amansie West District has a total land area of 1364sq.km which represents about 5.4% of the total land area of Ashanti Region. The 2010 Population and Housing Census put the population of the district at 134,331. However, in 2008, the population was estimated at 130,000 living in over 300 settlements.³⁰

The economy of the district is mainly agrarian, employing about 70% of the total workforce. Industrial/manufacturing and service sectors on the other hand, employs 22% and 7% respectively. Major food crops grown by farmers include plantain, cassava, cocoyam and

²⁹ The Coordinating Director, Amansie West District Assembly, Ashanti Region The Composite Budget report for 2013. www.mofep.gov.gh or www.ghanadistricts.com, (accessed on 16th October, 2014), 2.

³⁰ Amansie West District Assembly Composite Budget Report, 2013, 3.

maize. Cocoa is the main cash crop cultivated in the district and rated third in the nation. Small Scale Mining activities are also widespread in the district.³¹

There are numerous investment opportunities in the Amansie West District. Agriculture, Industry, Forestry, Tourism and Mining are wide potential areas for investment in the District. Resource potentials include abundant unskilled labour that could be tapped by investors and peaceful and stable political atmosphere. It is also envisaged that numerous hills in the district could be developed and linked with cables to be run by cable cars, the first of its kind in the country.³²

3.2.3 Relief and Drainage

The topography of the district is generally undulating with an elevation of 210m above sea level. The most prominent feature is the range of hills, which stretches across the north-western part of the district, especially around Manso-Nkwanta and Aboe. These hills have an elevation of between 560 m 630 m. The district is drained in the north by the Offin and Oda rivers and their tributaries such as Jeni, Ahinsu and Emuna. The drainage pattern of the district can be harnessed for irrigational cultivation of rice, vegetable farming and aqua culture.

3.2.4 Climate

The climate of the district is wet semi-equatorial. It has a double rainfall maxima regime with the major rainy season occurring between March and July. The minor rainfall season occurs between September and November. Mean annual rainfall ranges between 855mm and 1,500mm. The average number of rainy days for the year is between 110 and 120 days. The months, December to March are usually dry and characterized by high temperatures, and early morning moist/fog and cold weather conditions. Temperatures are generally high throughout

³¹ Amansie West District Assembly Composite Budget Report 2013, 3.

³² Amansie West District Assembly Composite Budget Report 2013, 4.

the year with mean monthly temperature of about 27°C. Humidity is high during the rainy season. The months of December to February, however, record very low humidity.

This climatic condition is suitable for the cultivation of cash and food crops such as cocoa, citronella, oranges, plantain and vegetables to feed the agro-based industries in the district and beyond.

It must be stressed however that current trends in the climatic conditions of the district is becoming unpredictable as a result of climatic change. This has affected agricultural planning. The situation calls for measures to reduce the overreliance on rainfall for agricultural production, like irrigation.

3.2.5 Galamsey Activities and its Effects on the Soil

Soil is one of the “ultimate” resources; and like water and air, there is no replacements for soil for growing plants for food and fiber (cotton, pine and red wood trees).

According to N. Donald, soil is both an ecosystem in itself and part of a larger ecosystem; soil support organisms from microbes to forest trees and humans, and support processes from water storage to waste decomposition.

Soil does so much for human existence. We are able to grow food because of soil availability given to us by God. Nature has made that provision. One gets grass and other animal feeds from soil and the life sustainability of soil cannot be override. The Egyptian civilization of 4,000 years ago, for example was made possible by rich sediments left by the yearly flooding of the Nile River. Soil provides ecosystem services critical for life. Soil acts as a water filter and growing medium, provides habitat for billions of organisms, contributing to biodiversity and supplies most of the antibiotics used to fight diseases. Humans use soil as holding facility for solid waste, filter for wastewater, and foundation for our cities and towns.

The nice picture painted above of the importance of soil seem threatened due to the impact of illegal mining (galamsey) in the district. Research shows that almost 35% of all greenhouse gases (GHG) released into the atmosphere due to anthropogenic activities since 1850 are linked to land use changes. Crop, grazing, and forest kinds, as well as wetlands, all have potential to reduce crop production. In addition current studies from the International Panel on Climate Change (IPCC) indicate that Earth's surface temperatures could rise by 3.8 to 11.2 degree Fahrenheit over the next 50 years, based on current greenhouse gas (GHG) emissions.³³

To the researchers understanding, this increase in temperature would have profound effects on the soil, thereby affecting the production of crops like plantain, rice and other cash crops like cocoa and cotton in the study area. This is so because each crop has a temperature range that is best for the seed to grow, thus, the crop is planted when the soil has warmed enough in the spring for rapid germination. Edward Denis puts it right by saying that, soils in the growing regions of the world keep a temperature balance over the year that is satisfactory for the plant growth. Shorter temperature changes or climatic change between seasons or night and day, can be dramatic.³⁴

3.2.6 Climate Change and Mineral Deposits

The high and the low temperatures have a great impact on the mineral deposits in the area. Recent interdisciplinary studies by the Geological Survey have resulted in substantial progress understanding the influence that climate and hydrology have on the geochemical signatures of mineral deposits and the resulting mine wastes in the Amansie west.³⁵ Specific areas of focus

³³ D. L. Manjunath, *Environmental Studies*, (India: Chennai Micro Print Ltd.), 2007, 27.

³⁴ Denis Edwards, *Earth Revealing, Earth Healing*, (Collegeville: Liturgical Press, 1995), 15.

³⁵ Ghana Minerals Commission (2007), Developmental Projects <http://www.ghana-mining.org/ghweb/en/ma/mincom/mcprojects.htm> I

include the release, transport and fate of acid-associated elements from the inactive mines communities like Keniago, Moseaso, Datano, and Koniase.³⁶

The environmental effects of abandoned mines and unmined mineral deposits in the area result from a complex interaction of a variety of chemical and physical factors. This is mostly seen when there is massive rainfall in the area. According to a report, these include the geology of the mineral deposit, the hydrologic setting of the mineral deposit and associated mine wastes, the chemistry of waters interacting with deposits and associated waste material, the engineering of a mine as it relates to the reactivity of mine waste, and climate which affects such factors as temperature and the amounts of precipitation and evaporation.

3.3 Environmental Degradation and Pollution

Pollution is another cause of environmental degradation. When the environment becomes polluted, it means that toxic substances have rendered it unhealthy. Pollution can come from a variety of sources, including vehicle emissions, agricultural runoff, and accidental chemical release from factories, and poorly-managed harvesting of natural resources including mining activities which is the focus of this study. In some cases, pollution may be reversible with costly environmental remediation measures, and in other instances, it may take decades or even centuries for the environment to cope with the pollution.

Again, environmental degradation is a process through which the natural environment is compromised in some way, reducing biological diversity and the general health of the environment. This process can be entirely natural in origin, or it can be accelerated or caused by human activities. Many international organizations recognize environmental degradation as one of the major threats facing the planet, since humans have only been given one Earth to

³⁶ Ghana Minerals Commission (2007), Developmental Projects <http://www.ghana-mining.org/ghweb/en/ma/mincom/mcprojects.htm> I

work with, and if the environment becomes irreparably compromised, it could mean the end of human existence.

The landmark report of the World Commission on Environment and Development, entitled “Our Common Future”, warned that unless we change many of our lifestyle patterns, the world will face unacceptable levels of environmental damage and human suffering. The Commission, echoing the urgent need for tailoring the pace and the pattern of global economic growth to the planet’s carrying capacity, said that: “Humanity has the ability to make development sustainable and to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs”.

The generosity of nature has been taken for granted. These perfect gifts of resources have been considered indestructible and in-exhaustible. They have, therefore, been carelessly handled and recklessly over exploited to the extent that they have become very much polluted, degraded and drastically reduced or even driven extinction in some cases, resulting in the planet earth losing much of the productive land, many rare species of plants and animals as well as strategic water bodies and the purity of the atmosphere.³⁷ The Ecologists describe environmental deficit as a situation in which the negative, long-term consequences of decisions about the natural environment outweigh whatever short-term benefits may accrue. The concept of deficit implies three important ideas. First, it has been argued that it reminds us once more that the state of the environment is a social issue, because it reflects choices people make about how we should live.

Second, this concept suggests that environmental damage – to the air, land or water – is often unintended. By focusing on the short-term benefits of, say cutting down forests or using easily disposable packaging, we fail to see (or choose to ignore) the long-term environmental effects

³⁷ A. Adarkwa-Dadzie, *Nature Kicks Backs*, (Tema, Ghana: EE Consult, 2002), x.

of these choices. Third, in some but not all respects, the environmental deficit is reversible. In as much as societies have created environmental problems, societies can undo most of them.³⁸

He continues to argue that, environmental degradation is a result of socio-economical, technological and institutional activities. Degradation occurs when Earth's natural resources are depleted. These resources which are affected include: water, air and soil. The degradation also impacts our: wildlife, plants, animals and micro-organisms. Environmental degradation occurs based on many factors including: urbanization, Population growth, economic growth, intensification of agriculture, increase in energy use, increase in transportation, etc.³⁹

Our land, water and soil are compromised when people exhaust resources or release harmful chemicals into the air. Deforestation, wasting resources, and pollution all add to the demise of an environmentally-sound and safe planet. For example, mining activities are conducted, when trees in forests are cut down in large quantities, so that more homes can be built on the land, the birds and wildlife who lived in the forest must find a new place to live. The vegetation that once grew on the land is destroyed. Trees that absorbed carbon dioxide to help the biosphere are now unable to do so. If the wood from the trees is used to make products and those products (such as paper) are later recycled, that is one hopeful aspect for the planet. However, sometimes trees are just cut down and burned. This is what is known as *slash and burn*, a practice that only destroys forests and all that live in them.⁴⁰

The unfortunate impact of environmental degradation is that when factories produce harmful chemicals and toxic waste into bodies of water, humans suffer. Pesticides and fertilizers can also get into a region's water system and pollute it. Drinking water is contaminated. Some

³⁸ J. J., Macionis, *Sociology*. 5th Edition, Annotated Instructor's Edition (New Jersey: A Simon & Schuster Company, 1995), 592.

³⁹ Dadzie, *Nature Kicks Backs*, 1.

⁴⁰ Dadzie, *Nature Kicks Backs*, 3.

residing in third-world countries are highly affected by the degradation of our planet and these unhealthy practices cause the following: illness, deaths in children and adults.

At times the destruction is so great that it cannot be reversed. We are killing our planet and the consequences are tremendous. There are ways which we can help to decrease degradation in our environment.

In the final analysis, the environmental crisis affects everyone on the planet, but the degree to which the inhabitants of different parts of the world contribute to this crisis depends on the level of their economic development and their consumption patterns. While international environmental concerns are often expressed in broad terms such as desertification or climatic change, the environmental problems of concern to vulnerable groups in marginal areas are generally quite localized in nature, revolving around immediate issues, such as the degradation of a particular rangeland or soil erosion on farmland or the progressive shortening of fallow. These affect the poor because they are directly related to household food security.

3.4 General overview of Small Scale Gold Mining Industry in Ghana

The Economic Commission for Africa has conceded that, there is no universal definition for small scale mining. But it has common characteristics, as being labour intensive with no requirement for skilled labour and sophisticated technology. It operates with limited capital investment which leads to low productivity. The law in 1989 (PNDCL 218) reserved the small scale mining activity for nationals of Ghana, but now that has been overlooked by the miners. Recently, some of the illegal small scale gold miners arrested in Ghana were from China, Nigeria, Mali, Burkina Faso and Niger just to mention a few. In Ghana, the government has defined 25 acres concession as land size for small scale gold mining activities.⁴¹

⁴¹ Kwaku Dwumor Kesse and Benedict Arko, "Small Scale Gold Mining and Environmental Degradation in Ghana: Issues of Mining Policy Implementation and Challenges" *Journal of Studies in Social Sciences* Vol. 5, No. 1, 2013, 12-30.

There are two groups of small scale gold miners in Ghana, namely the licensed or legal small scale gold mining firms and unlicensed or illegal small scale gold mining units, also known as “galamsey”. However, Hilson and Potter have also observed that there is little difference either organizationally or technologically between legal and illegal mining activities except that the former has security of tenure on a demarcated mineralized concession for a given period of time.⁴² Also it should be noted that, in Ghana, mining concessions are not approved for mining to take place, in prohibited areas such as forest and game reserves, areas close to rivers and water bodies, site close to residential areas and other public infrastructure. Any mining activity which takes place in such areas is considered illegal.⁴³

National statistics indicate that gold mining industry is a major employer in Ghana. It is estimated that it employs over 520,000 Ghanaians, with about 4 percent working in the large scale sub-sector and 96 percent in the small scale mining sub-sector. Out of the total 2,930,328 ounces of gold produced in Ghana, in 2009, the small scale miners produced 18 percent while 82 percent was produced by large scale mining companies.⁴⁴ This confirms the low per capita productivity in the small scale gold mining sub-sector. Again, it is being argued that the logic in the legalization of the small scale gold mining, in Ghana, lies in its resilience and ability to reduce poverty amidst government crackdown, implying that better mining policies and their effective implementation are necessary. Also, that could improve household income and the performance of the subsector; while transforming squatter producers into citizens who are recognized as economic entities capable of participating in public decision making.⁴⁵

⁴² G. Hilson, and C. Potter, “Structural Adjustment and Subsistence Industry: Artisanal Gold Mining in Ghana”, *Development and Change* 36 (1):103-131, Institute of Social Studies, (Blackwell Publishing, Malden, 2005), 10.

⁴³ Kessey and Arko, “Small Scale Gold Mining and Environmental Degradation in Ghana”, 15.

⁴⁴ Kessey and Arko, “Small Scale Gold Mining and Environmental Degradation in Ghana”, 17.

⁴⁵ Kessey and Arko, “Small Scale Gold Mining and Environmental Degradation in Ghana”, 20.

3.4.1 Management of Environment and Small Scale Gold Mining

According to Akabzee and Darimani, the United Nations Conference on Human Environment held in Stockholm, Sweden in 1972, environmental protection did not feature extensively in mainstream development issues in Ghana.⁴⁶ The Minerals Ordinance (CAP 185) and Minerals Act, 1962 (Act 126), the main laws regulating mining in the country, had no environmental provisions. The situation improved with the passage of Legislative Instrument, 1970 (LI 665) as amended by (LI 689). Increased public awareness came after severe droughts and famine in the 1970s and 1980s. The situation has now improved with policy makers becoming aware of the link between eliminating poverty and environmental protection. Currently, there is multiplicity of laws governing environmental issues within the small scale gold mining industry. These include Minerals and Mining Act, 2006 (Act 703), Environmental Protection Agency Act, 1996 (Act 490), and Minerals Commission Act, 1993 (Act 450), just to mention a few.⁴⁷

Goodland defines environmental sustainability as the maintenance of natural capital. It implies the unimpaired maintenance of human life support systems.⁴⁸ The need for environmental sustainability has arisen due to the recognition that, there are unborn generations who will depend on the environment. Therefore, if the present abuse of the environment is not checked that will lead to biophysical degradation. The move for environmental sustainability is urgent, due to the deterioration of global life support systems. It has been noted that four factors impact on the environment, as a result of gold mining operations. These are the type of rock ore being mined, the type of mining operation and scale of operations, the efficiency and effectiveness

⁴⁶ T. Akabzee, and A. Darimani, *Impact of Mining Sector Investment in Ghana: A Study of the Tarkwa Mining Region* (Unpublished Report, 2001), Washington SAPRI, 2001), 12.

⁴⁷ Kessey and Arko, "Small Scale Gold Mining and Environmental Degradation in Ghana", 19.

⁴⁸ R. Goodland, *Annual Review of Ecology and Systematic*, Volume 26, 1-24, (1995), 2.

of the environmental management system put in place, and finally the sensitivity of the receiving environment.⁴⁹

This presupposes that, mining looked at from the economic point of view is an activity considered to be very desirable. However, viewed as an extractive activity, it is seen to have impacts likely to work against the proper and systematic development of mining communities. Despite the economic benefits that mining accrue to nations, experiences of mining communities throughout the world are so depressing that redefined commitment to internalizing the unconstructive externalities of particularly small scale mining firms ought to be approached with utmost urgency.

According to Kessey and Arko, while, Aryee et al, have grouped environmental challenges associated with small scale gold mining into three major components; namely, effects on the lithosphere, hydrosphere and atmosphere, Henstchel et al have also given the causes of the various negative environmental impact of small scale gold mining as lack of knowledge, education and training of miners, inefficient technology for mining; inefficient public administrative management, challenges in human control, economic limitations and human survival, lack of access to better techniques, lack of information on best practices, lack of control and enforcement of policies, non-implementation of environmental legislations and low capital base implying reduction in investment. Given these complex root causes of mining activities and the environment, it suggests that an integrated approach has to be designed in addressing the challenges as the traditional strict enforcement of sanctions does not work.

⁴⁹ Kessey and Arko, "Small Scale Gold Mining and Environmental Degradation in Ghana", 20.

3.5 Small Scale Mining Processes and Degradation of Environment

Small scale mining processes involved three major activities namely excavation and construction leading to gold-bearing ore removal, tailings disposal and mercury amalgam process.

3.5.1 Excavation and Construction of Pits for Gold Ore Removal

The licensed firms undertake their mining operations within the concession areas apportioned to them by the Minerals Commission. They construct the mine pits with excavators, washing plants and water pumps. In the process of pit construction, the vegetation cover is removed first and other layers of soil from the top soil, through to the gold bearing ore, which is scooped out. On average, the size of pits ranges between 400 and 4000 square feet while the depths range from 6 feet to 30 feet, depending on the location of the gold bearing ore from the earth surface. After the construction of pits, the excavators deposit the ore laden soil in washing plants. Pumping machines are used to pump water through water hoses to wash the ore. After washing, the ore is further reduced to a black substance which is further panned for the actual gold to be extracted. On average a pit with adequate gold ore content could be depleted in one month. A concession area of 25 acres could be mined out in about a year, though not every part of the concession is mined due to limited gold ore content.

3.5.2 Effect of pit excavation on Environment

Materials removed, also known as overburden, are dumped by the excavator all-round the pit with the various layers of soil lumped together with the top soil which contains humus for agriculture, at the bottom followed by the subsoil in that order. According to Kessey and Arko, a total of 54 percent of the respondents interviewed during a field work in one of the communities indicated that they store the overburden materials for reclamation of the sites, while 34 percent said, they just dump it around the pits and 12 percent indicated that they sell

it to construction firms. Some of the dumped materials are washed away by erosion.⁵⁰ The exposure of minerals in the removed overburden leads to oxidization making it acidic and when washed, the acidic solution, also referred to as tailings, have negative effect on biodiversity within the mining areas.

3.5.3 Tailings Disposal and Environment

Some firms, after washing, discharge tailings into previously mined pits to be used again, number of times, before they finally discharge them into surrounding rivers such as, Offin. The preservation of tailings in pits occurs at sites about a kilometre from the river banks. For mining sites, close to rivers, the tailings are washed directly into the rivers without storage.

With the licensed operators, 21 percent of the miners treat tailings before discharging into rivers and 27 percent stored it in pits while 52 percent direct tailings into rivers including the Offin river without treatment.

3.5.4 Mercury Amalgam Process

At some mining sites, mercury-gold amalgamation processing is undertaken away from where the workers perform their duties. The gold-mercury amalgam takes place by heating a sauce pan with a lid. Although this is an improved process, the miners finally throw the mercury residue, in the sauce pan, on the ground allowing it to escape into the atmosphere, soil and rivers. Again, according to Kessey and Arko, a study has shown that some people burned the mercury-gold amalgam over open fire, others use mercury retorts, and others also do it by other processes such as roasting in a covered sauce pan and extract the gold for the market.⁵¹

⁵⁰ Kessey and Arko, “Small Scale Gold Mining and Environmental Degradation in Ghana”, 26.

⁵¹ Kessey and Arko, “Small Scale Gold Mining and Environmental Degradation in Ghana”, 27.

3.6 Unlicensed Small Scale Gold Mining “Galamsey” Activities

The unlicensed mining activity also referred to as “galamsey” is widespread. The study showed that, majority of this group of miners are mainly males without formal education, only few have junior high school certificate. This implies that Junior high school graduates also work as miners in the unlicensed small scale gold mining industry.

3.6.1 Unlicensed Mining Processes

Like the licensed operators, the activities of the unlicensed miners also have negative impact on environment in terms of pit construction disposal of tailings and gold - mercury amalgam. A study has shown that some of the unlicensed miners galamsey activities are engaged entirely in dredging operations.⁵² They use locally manufactured dredging boats affixed with two engines. The miners affix one engine to suck up debris at the riverbed through a water hose unto the sluice board also affixed to the boat. The second engine is used to suck up water from the river through another water hose to wash down the debris deposited on the sluice. The operations of these miners are mainly labour-intensive. The low capital intensity makes the operation attractive to the rural poor who cannot afford the price of acquiring license and equipment.⁵³

3.6.2 Construction of Pit and Disposal of Tailings

The construction of pits by the unlicensed miners who do not operate on river surface is undertaken by using rudimentary equipment, such as pickaxe and shovel. The pits are narrow compared to those of the licensed operators. However, the pits are quite deep to enable them get to the gold bearing ore deposits. Some of the operations take place in abandoned pits from the licensed firms. It is common knowledge that some of the pits used by the unlicensed miners fragile and cave in easily. That causes disaster which leads to loss of lives in some cases. These

⁵² Kessey and Arko, “Small Scale Gold Mining and Environmental Degradation in Ghana”, 29.

⁵³ Kessey and Arko, “Small Scale Gold Mining and Environmental Degradation in Ghana”, 29.

miners take little or no precaution in their operations which accounts for the dangerous nature of galamsey mining activities. However, the galamsey miners are not scared, as they continue the operations daily.

3.6.3 Small Scale Gold Mining Processes and Environment

Small scale gold mining is economically viable as it provides household incomes; reduce rural unemployment and poverty. Again, it also contributes to total amount of gold produced in Ghana. Also, it contributes to income from exports, Gross National Product and economic growth for that matter. However, the cost of those activities to environmental sustainability is very high, in the long run. In other words, small scale gold mining is not cost-effective in terms of environmental management.

3.7 Small Scale Gold mining in the Amansie West District and its effects on the community

In the Amansie West District, it is very devastating how cultivable lands have been rendered unproductive, large cocoa farms deforested and water bodies polluted predominantly by local indigenes and Chinese immigrants without any respect whatsoever to the future of the communities in which they operate. For some few dollars, the future of generations yet unborn is cheaply sold by chiefs, opinion leaders and influential people in these communities. What is more, contrary to using the proceeds from the sales of these lands to advance development in the area of education, health and physical accessibility, it is used in furthering self-seeking interests. The poor, voiceless, vulnerable and the less educated are always at the receiving end of the unfortunate decisions by the drivers of these communities.

In communities like Morso, Aboaboso, Takorasi and Abore, many were the hearts and eyes that sunk and wept at the sight of how productive lands had been mercilessly excavated and pit left naked and muddy. Only God can save the unfortunate souls that do not tread cautiously

whilst walking along these death traps. For the generations yet unborn, the issue of how beneficial the natural reserve can be after the seemingly gross sense of disrespect for sustainable development by the local drivers has always been a source of great worry to many social and environmental activists.

The extent of degradation of the environment and pollution of rivers spread all over in mining communities across the country are open pits besieged by unskilled youth, confidently yet ignorantly digging for gold to sell to prospective buyers, without considering the dangers being created for themselves, the inhabitants and the environment. Illegal mining in Ghana, particularly of gold, has become a major issue and raises concerns about water pollution and environmental damage.

3.8 Conclusion

This chapter has looked at a brief background of the Amansie West District which is the focus of the study. It has touched on the various processes through which mining activities are carried out and how these activities affect the environment. A critical examination of the key processes reveals the damage to the environment by small scale gold mining activities.

This is caused by factors such as low level of formal education, unavailability of improved equipment for managing the environment, low capital base, low production margins and ineffective support from public statutory institutions.

The next chapter will discuss how the church in the Amansie West District is educating people about environmental degradation. It will further examine the impact and the challenges faced by religious organization in responding to environmental issues.

CHAPTER FOUR

THE CHURCHES RESPONSE TO ENVIRONMENTAL CRISIS IN THE AMANSIE WEST DISTRICT

4.1 Introduction

The interest of the researcher is the environmental crisis situation that the Amansie West District finds itself in. Safeguarding of nature is very critical because it serve as the brass tacks of human existence. It is said almost everywhere that when the last tree dies, the last person will die. It is true because nature provides us with varying degrees of dependability which can be understood as a result of God caring for humankind. If nature is well preserved, it will help us to maintain and sustain the environment in which we live.

For example adequate water supplies of high quality is necessary both for community use and local ecosystems. Communities as well as other creation require proper care to be able to fulfil the purpose for which they were created. For this reason, there is the need to work hard to preserve nature so long as one continues to live in this world without knowing the very day this beautiful, well planned nature will be destroy as indicated in the Bible. As long as the earth endures, seedtime and harvest, cold and heat, summer and winter, day and night, shall not cease. (Gen 8:22). How nature or the environment will look like in the next 50 years to come will depend on the proper care one gives to it. The land has a beautiful and varied landscape with many distinct ecosystem. If one desires nature to always look better with running streams, clean water, clean air and wants to leave something better for the next generation, then one need to invest now. For the sake of the future it is incumbent upon us to complement the work of creation by taking good care of it. In this chapter, the researcher discusses and analyze the response Christian denominations in the Amansie West District are offering to the people that live in the district.

4.2 The Christian and the Environment

In Colossians 1: 15-17 we reads that “Jesus is the image of the invisible God, the firstborn over all creation. For by him all things were created: things in heaven and on earth, visible, whether thrones or powers or rulers or authorities: all things were created by him and for him. He is before all things, and in him all things hold together” (NIV).

In the text above, the agent of creation is Jesus Christ, surely the other members of the Trinity were present at creation (Genesis 1: 26). Jesus is the Creator – ‘by Him all things were created’. He is the sustainer and in Him all things hold together. He is reason for it all: ‘all things were created for him’

As Christians or followers of Christ, there is an undeniable fact that we are following the One that made everything. The One for whom everything was made holds all the molecules in everything together. In Genesis 2:15–17 the LORD God took man and put him in the Garden of Eden to tend and keep it. This is known in many circles as stewardship.

According to the *Longman Dictionary of Contemporary English*, “Someone’s stewardship of a thing is the way that property is controlled or protected.”⁵⁴ This therefore makes it clear that a good steward protects the natural environment while a bad steward destroys it. In an argument, Ernest Appiah cites Draper as quoting Learner, and he argues that “stewardship permits people to take leadership roles and act responsibly when a threat to a locally valued place or environment occurs.”⁵⁵ Following this, Ernest Appiah argues that a real epitomy of this is what Sarfo Adjei and his workers of the Waste Management Unit of the Kumasi Metropolitan Assembly have been doing in the Subin River, while the Environmental Health

⁵⁴ *Longman Dictionary of Contemporary English* (2007:1624),

⁵⁵ Ernest S. Appiah, *A Religious Response To Environmental Degradation In Kumasi Metropolitan Assembly And Ejisu – Juaben Municipal Assembly*, Thesis Submitted To The School Of Research And Graduate Studies, Kwame Nkrumah University Of Science And Technology – Kumasi, November 2011, 48.

Officer of the Ejisu-Juaben Municipality has also been removing refuse dumps with bulldozers and tractors.⁵⁶

According to him, Draper argues that local people who felt a sense of stewardship or responsibility might be found cleaning up their natural areas, challenging polluters to do things differently, and demanding action and accountability from their governments.⁵⁷

In the course of this research, it was found out that most of the churches in the Amansie west and other parts of the districts had not taken it upon themselves to sensitize their church members or communities, despite the fact that they had been referring to their members as stewards of God. A careful investigation revealed that environmental protection was not part of the thought of stewardship. Most of the interviewees thought stewardship simply meant using their time, talents and possessions (money) to help the church to grow. They were only anthropocentric and theocentric without being biocentric⁵⁸.

God gave man a responsibility to manage the earth on His own terms not man's term. A steward is someone who takes care of something on behalf of someone else, and that is a very good way for the church or Christians to think about their position between God the Creator and the earth he has made. A Christian steward is someone who takes care of something on behalf of someone else, and that is a very good way for the church to think about its position between God the Creator and the earth he has made. As Christian stewards, we must see ourselves as people taking care of God's property on His behalf. He made it for Himself, but He has put us in it to take care of it. We cannot be effective stewards of God's property until we understand what His goals are.

⁵⁶ Appiah, *A Religious Response To Environmental Degradation*, 49.

⁵⁷ Appiah, *A Religious Response To Environmental Degradation*, 49.

⁵⁸ This is to say that the church has become too much concern to cater for the needs of man and preach the good news of God but has neglected their role to care for the environment.

As Christians we can legitimately ask why God made all that He made and can expect an answer. In Colossians 1:16: He (God) made it not for us but for Himself. Looking at the climax of God's creation on the sixth day, God finished His work and blessed it. God was working to achieve a rest on the seventh day. God did not only set up the cosmos so people will have a place; He also set up the cosmos to serve as his temple. He is making a rest for Himself, a rest provided for by the complete cosmos. The biblical story is about God's relationship with the human race and all creation. So God made creation (environment) for Himself, and He created it to be His temple – a place in which He could pursue relationships with the creature He created, not just human beings but all of the other creatures He had made.

Our desire as stewards is to appreciate what God's own goals for His world are, and the goal of our stewardship is, or should be, to make God's creation our own. Dominion – our rulership over the rest of creation – is simply the tool God has given us by which we can accomplish God's goals, not our own, in creation. According to Appiah, Draper has argued that stewardship promoted working in partnership with other individuals and environmental non-governmental groups, as well as with government or private-sector programmes to help everyone understand the importance of accountability with regard to eco-system sustainability. Simply put, he said stewardship was active earth-keeping that helped promote and attain the public good.⁵⁹ Again, if the Greek word *oikonomos* means the manager of someone's estate or house then it denotes that the duties of the steward include management but never for one's own benefit or in such a way as to be contrary to the desires of the owner. This makes it vivid that religionists have to continuously and actively take care and protect nature, in order not to make this world a perilous place to live in and finally incur the wrath of God.

⁵⁹ Appiah, *A Religious Response To Environmental Degradation*, 50.

4.3 The Christian relationship to creation

From the researchers own opinion, the way one treats the environment, and how one disposes of refuse or any waste product is a measure of one's faith, an indication of his or her spiritual health. One's relationship to creation is part of the same process as all of the others. And how one treat creation and in effect dispose of his or her waste really is a measure of how well God's redemption is working in one's life.

Under normal circumstances, those who try to be spiritual try as much as possible to get closer to a certain level of their ultimate reality. If this is the case then how should those whose ultimate reality is God behave? This God has entrusted all that he has created to his followers so by implication all followers of God, as well as Jesus Christ, are expected to be good stewards of nature. It is those whose relationship with God had been restored by an experience of forgiveness who should acts as agents of change. The agent of change is therefore the church. When the church positions itself well and educates its members about their relationship with creation or the environment, it will foster a good challenge on their lives and affect the way they relate to their environment. It can help them to think globally: act locally and do what the Lord Jesus Christ created them to be and do.

Environmental problems are sin problems, and sin is something the church knows how to handle: Helping people to understand their sin and guilt, coming to God for forgiveness and help change how we live. The redemption, reconciliation and restoration that God is accomplishing in the world is being accomplished through the church.

Spirituality may simply be the quality of being interested in religious matters, but we think spiritual people are neither anthropocentric nor theocentric. If we believe that environmental destruction is a sin against God and humanity then it becomes an ethical issue. If destruction of the natural environment can end up creating health hazards for humans and lead to deaths

then a theology of nature should be developed in order to help people attach much importance to environmental protection. If a theology of nature is developed, many people may be compelled to treat nature as they treat themselves and other humans because they may realize that a sin against God is tantamount to a sin against nature and vice versa. Young therefore comments as follows:

The church stands in need of a fresh reading of the Bible, a reading sensitive to God's concern and purposes for the environment and humanity's relationship and responsibility toward it. It is not as easy as said. It requires a new paradigm for understanding life and doing theology, yet there seems to be an ingrained resistance against paradigm shifts in traditional Christianity. The shift must be away from the dominant the anthropocentrism of Western theology to some new framework.⁶⁰

Accordingly, Mante thought that the non-human environment should not be ignored when theologizing because it pervades all African symbolic thoughts and worldviews.⁶¹ As Christians, we believed God made the world. We believed He reveals Himself through His creation. We believed He put us here to do His will, and doing His will includes taking care of His creation. It is time for us to wake up. One of the most important functions of the church is to be a demonstration community, to show the world how community is done. The church is marked by a set of beliefs or values that call her to care for God's creation (among other things). The church is a community. The church can begin to respond to the environmental crises simply by being the community she is called to be.

However, the church must also bear in mind that God is responsible for both the origin and the preservation of all creation. No atom of the universe is self-sufficient – all is utterly dependent upon God's gracious sustenance. God has created nature to the extent that the nature preserves itself. Things work naturally like that and it is very wonderful. Hans Schwarz called it degrees of dependability which can be understood as the result of the caring activity of God.⁶²

⁶⁰ Young, *Healing the Earth*, 274.

⁶¹ Mante, *Africa Theological and Philosophical Roots of our Ecological Crisis*, 7.

⁶² Schwarz, Hans. *Creation*, (MI: Eerdmans Publishing Company, Grand Rapids, 2002), 83.

According to him, the first kind of dependability is represented in the rising and setting of the sun and in the cycles of seasons. He states that they provide the foundation for the development of life on earth.

4.4 The Church in the Amansie West and its response to Environmental Degradation

As already emphasized, the aim of the study is to look at how the church⁶³ in the Amansie west district is responding to the issue of environmental degradation. As an agent of transformation in the life of people who come into contact with it, the question that might be asked is, how is the church which is to be the watchdog of society responding to environmental crisis in which it finds itself. The dilemma is how can the church live in a sacred temple when the very things the church need to live or to worship seem to require damaging it in some way.

Upon the researchers own observation and interview with selected individuals, there were many issues that came and the researcher discuss some of them as follows. Firstly, many of the Christian's respondents seemed not to have understood the term stewardship well. Most of them referred to stewardship as taking good care of their possessions, time, talents and so on. But what their explanation lacked was active earth-keeping. Astonishingly, none of the respondents knew that God's stewards were also supposed to protect the natural surroundings. They did not see it as a religious duty.⁶⁴

There was an interview with a pastor of the Church of Pentecost in one of the communities, to find out if there have been any form of education by churches in the district with regard to environmental degradation. The pastor indicated that, there have not been any such forum in the various communities by churches, but however, in the delivery of their sermon from day to day, they exhort the congregant to take proper care of the environment and not to destroy it.

⁶³ The use of the church is in reference to all denominations from the various Christian traditions which include the mainline or orthodox churches and those from the Pentecostal and charismatic ministries.

⁶⁴ Interviews with some selected church leaders, on the 15th of December, 2014.

They argued that, sometimes, because of the level of poverty in the district, some individuals who happen to be Christians sometimes undermine this divine mandate in order to make a livelihood for themselves.⁶⁵ This was actually confirmed by a member of Edubia a community in the district. When asked if he is a Christian, he responded in the affirmative. He disclosed that, the pastors in the various churches constantly admonish people in the church to help fight against environmental degradation, but the poverty level makes it difficult for them to abide by such call. He said that in order for them to cater for themselves and the family they have to engage themselves in illegal mining to make a living.

However, in an interview with an elder Evans Aboagye in the Methodist church, he disclosed that the rate at which people in the communities which include foreigners are destroying the vegetation and lands in the area is very appalling. In a question to find out what the churches have been doing about the situation, he said that the churches are not doing much and he advised that the highest body of the church be made to go in and speak to those who were destroying the vegetation. He ended up blaming some of the top officials in Ghana for condoning and conniving.⁶⁶

In a further interview, it was found out that Christians in the various communities do not understand or probably do not have core knowledge about their responsibility towards the environment.⁶⁷ Most of the people interviewed do not have a good understanding of the relation between God and the environment. The fact that most of the respondents did not know that man, nature and God are interrelated and interconnected should be a wake-up call to all the inhabitants especially, environmentalists and religious people. It was amazing that many of the Christians who were supposed to lead the campaign against environmental destruction did not

⁶⁵ Interview with church leaders.

⁶⁶ Interview with Evans Aboagye from the Methodist church on the 18th of December, 2014.

⁶⁷ Interview with some church members on the 18th December, 2014.

know that nature and God had to work together so that humans would have peace. The Christians only appreciate the relationship between humans and God but fails to attach importance to nature.

This means that environmentalists and the church must also make it a point to educate and advise people on the situation and offer proper guidance.

It was also accepted by all the twenty respondents that improper disposal of waste had been a thorn in the flesh of the inhabitants of the district. Environmentalists and many other people were worried in the course of the data collection because of the waste heaped all over the district. At Manso Nkwanta, Takorase and other villages in the districts, all the rivers that serve as livelihood for people have been destroyed due to illegal mining. In fact all kinds of waste had been piled in the river, especially mercury and other tailings. What is very dangerous about this disposal of waste is the presence of mercury, which can cause cancer and other diseases like buruli ulcer.

In all this, one most absurd response was some Christians' illusion that they had been given power over nature so they were at liberty to exploit it. Even protection of animals and trees was not seen as part of their religious duties. Some even went ahead to affirm that they could decide to eat whatever they would come across.

In general, it was realized that the churches in the Amansie West District have not done much campaign against environmental degradation.

4.5 Practical ways the Church can care for the Environment

Encouraging Christians to be environmentally friendly and become responsible for the environment has become popular during recent years. In order to understand our responsibility it is important to comprehend the original relationship between man and nature. Genesis 1:26-

28 tells us that God created man and woman in his own image and God gave them dominion over all the earth. This includes all the animals that God had created as well as the entire earth. It did not stop there, but God also charged their descendants with the care for all the earth. The researcher can argue that this charge to care for creation was not even after the curse and the fall of man.

For the church to be effectively involved in responding to environmental crisis, there is the need to educate people about the dangers of environmental degradation. Environmental crises are sin problems, which require change of attitude and behavior towards God's creation. What appears to be a weakness from a human perspective is not necessarily so when God gets into the picture. There is the need for the church to create an awareness for community of believers to worship and focus on the Creator from the beauty of His creation. There is the need for the church to embark on teaching and preaching that emphasizes the nature of God's redemption plan and our part in it. The brain behind this ecological friendliness and care stir from the fact that cleaning the environment is important because the future of mankind is endangered if man does not adopt environmental cleanliness.

Indeed, the church and for that matter Christians have a lot to do to protect and preserve the environment in which they live. When one does not do what is supposed to be done, there are effects or some sort of consequences. Christians must be responsible for the environment. The following are some of the actions the church can take to take care of the environment;

First, the church need to reach out to communities by not only loving them directly, but also showing them how to care for God's creation. The environmental crises took a long time to reach the critical stage it is now in. The church needs to open the eyes of people to God's creation and to God Himself. The environmental crisis is a scientific problem, an economic problem, a political problem, a security problem and a moral problem - a matter of life and

death of millions. But at its root, is a spiritual problem. The church, if properly functioning in the full power of God, is the only institution available to the human race that can address a problem of such dimensions. The church is capable of addressing every issue: repentance from sin, motivation for individual action, courage and influence to change corporate behavior and the ability to recruit and mobilize millions of people to move creation and do everything from street cleaning to tree planting.

In addition, the church need to integrate creation-care teaching and earth healing into missionary outreach programmes. During the interview with the Christians, most of them showed clearly that their knowledge in the gospels (Matthew, Mark, Luke and John) was limited when they were made to tell whether their Saviour, Jesus Christ had ecological knowledge or not. If they had known, their attitude towards the environment would have been cordial. Again, teachers, instructors and leaders who are Christians should take it upon themselves to explain the creation stories about nature well within their congregants so that even children will grow up to become responsible about how they treat nature. Scripture enjoins us to teach the children the way they should go. Good habits should be formed in them in the early stage of their lives. In the same way school curricula should have something to teach children about creation so as to instill in them the proper understanding of our relationship with nature.

The Christian respondents revered Jesus Christ so much that if they had known in the course of the research that their Saviour held nature in high honour, the level of environmental degradation would not have been like that. One observation that has been made as part of this study is that, Pastors and religious leaders do not emphasize much about the environment in their preaching. Much is being said about holiness, peace, caring for one another, but not caring for nature. One Yale University study found that “knowledge of the creatures, respect for the creation and understanding ecological relationships was inversely related to the

frequency of Church attendance”. Christians seem to be silent and unconcerned about ecological issues. Why do they seem to be silent in the area of the environment? Probably, they think that there is nothing they could do about it because we live in the world of sin. It could also be that they think they lack logistical materials that will help them to preserve the environment. According to Addo Obeng, perhaps they believe that the world is not worth protecting, especially since a Christian ultimate destiny is in heaven. He further said that this belief, however, clearly contradicts God’s direct command for mankind to care for the environment. To him another reason is that some Christians may fear the prevailing pantheistic influence on the environment.⁶⁸

Churches should do well by integrating biblical roots, bible concepts, insights, and Christian principles about creation during class meeting, home cells, and Sunday schools. It can be argued that Christians and for that matter churches have made environmental issues no go area, untouchable and steer away from discussing it. When it happens this way, it does not encourage the Christian to think about creation. It is high time the church in the district learnt to interpret the gospels well. God calls us to be good stewards of His creation and it behoves on all Christians in their regions, constituencies and district to begin developing God-centered strategies to educate, disciple and mobilize the entire church to action. A mobilized church can make an impact. In Roman 8:19 (NIV) we read that “Creation await the sons of God to be revealed”.

Furthermore, there is also the need for churches in the Amansie West District to embark on educational campaigns by organizing forums in community centers to educate people on environmental degradation and its effects on the lives of people and community as a whole. Apart from that, religious leaders need to use the power of the pulpit to preach and teach about

⁶⁸ E. Addo Obeng, *Healing the Groaning Creation of Africa* in Getui and Obeng (eds) *Theology of Reconstruction*, 2006, 57.

creation care. The environmental crises will not change until people change through pastors, Sunday school teachers and others who teach about God and creation. By doing this, there is the need to include Bible references about creation in worship services (Gen 1 & 2; Ps 8, 19, 104, & 108; Job 38 – 40, Mathew 6:26, Roman 8 and Colossians 1). Proper emphasis in worship should make God's world visible. The use of creation images in prayer as in 2 Chronicles 7:14 will go a long way in educating Christians. People should be taught to use God's creation in individual worship.

The church must focus on the next generation (train a child the way he should go – Proverb 22:6 and Mathew 19:14 and 2 Timothy 2:2). Last but not the least, Christian organizations, associations and groups should work hand in hand with the government and politicians to practice sound ecological principles such as recycling. Even though it is capital-intensive and demands a lot of skilled labour, but if we take the bull by the horn, it will go a long way to protect the environment. People in their offices and in their homes should develop practices which will help the environment. When all these suggestions are well packaged, addressed and noted, it will go a long way to save the environment.

4.6 The Church and Earthly Theological Agenda

Christian's relationship with God is as important as their relationship with nature. At first, Christians were focusing their attention on God, themselves and their neighbors. According to Sallie Mcfague the context has broadened to include what has dropped out of the picture in the past few hundred years – the oppressed neighbours, the other creatures and the earth that support us all.⁶⁹ He went further to say that this shift could be seen as a return to the roots of a tradition that has insisted on the creator, Redeemer God as the source and salvation of all, that is, humankind have come to notice or realize that without nature or the environment they cannot

⁶⁹ Sallie McFague, *Supernatural Christians: How We should Love Nature*, (Minneapolis: Fortress Press, 1997), 24.

survive, even though God exists. God has provided all the things like trees, air, rivers, forest and land that man will need to be able to survive so that life will be well and meaningful.⁷⁰

However, these things are not the end. One has to make good use of them so that they will be beneficial for their existence, but not to take advantage of them. People now care about the consequences of the things they do against nature. Due to the consequences, we now take a second look at nature. Our attention has been drawn to the destruction that we cause to nature.

The focus is not on ourselves now but the planet in which we live on. To a large extent human survival depends on the planet. Most especially, when the world is gradually becoming a global village. We need to also know the two are interrelated, and they go together. We seriously need a theological reflection. McFague said that while the nuclear threat has lessened somewhat, the threat of ecological deterioration has increased; they are related as 'quick kill' to 'slow death'.

He posited a new mode of theological production, one characterized by advocacy, collegiality and the appreciation of differences. As stated by Juan Segundo, theology is not one of the “liberal arts”, for it contains an element of the prophetic, making it at the very least unpopular enterprise and at times dangerous one. He further stated that the academic has been suspicious of it with good reason, willing to accept religious studies but aware that theology contains an element of commitment foreign to the canons of scholarly objective (Marxist or Freudian commitments, curiously have been acceptable in the academy, but not theological). Religion is commitment to the divine and we do that with a clear conscience to improve our relationship with the one we serve. It does not call for somebody to be a scholar before one can be committed to the divine. McFague ended his submission with the following statements. Theology is an “earthly” affair in the best sense of the world; it helps people to live rightly, appropriately, on the earth, in our home. It is as the Jewish and Christian traditions have always

⁷⁰ McFague, *Supernatural Christians*, 30.

insisted concerned with right relations; relations with God, neighbour and self, but now the context has broadened to include what has dropped out of the picture in the past few hundred years.⁷¹

Talking about relation with God, your neighbor is in the right direction. You cannot relate well with God while having problems with other people you live with. Living well with your neighbours will give you a peace of mind.

Thankfully, God came to us and showed us how we can live here as we will in heaven. He gave us a model – Jesus Christ, Son of God and Saviour. Creation must be cared for because God made it, because He made it as a sacred worship space in which we could meet Him and because He Himself walked along its paths, sat under its trees and used it for worship Himself. Knowing that Jesus walked this earth gives us a reason to take care of it. And watching him walk on the earth helps us to understand how we can live on this earth as creatures, and that it is pleasant to be a consumer of the good things God placed here.

God made the world beautiful. He made it to reflect His nature. He made it a place in which He could – and should be worshiped. He also made it tasty. The trees in the Garden were good for food. He intended that the fruit of creation be consumed by the creatures He placed in it. He set things up so creatures would have to eat other creatures in order to live. We must enjoy, but not destroy creation's fruitfulness. Deuteronomy 20:19; Deuteronomy 22:6 – 7; Leviticus. 25:2-5; Isaiah 5:8 and Revelation 11:18, show clearly that there are penalties for those who would destroy God's creation in the process of using what He has given.

Jesus came eating and drinking and showing us by His example that we can do the same without fear or guilt. God made us to be consumers, and it is to use the fruit of God's creation. He

⁷¹ McFague, *Supernatural Christians*, 40.

intended that we do so, but not to consume to the point where our consumption destroys, degrades or diminishes creation's ability to be fruitful. That is contrary to Jesus 'example and exposes us to God's wrath in a way we should rather not experience.

Jesus was a carpenter but was a gardener and helped agriculture in so many ways. We have to eat, and every other activity of our lives has some impact on the rest of creation. Jesus would be first to tell us that cutting down all the trees in a forest is wrong, that fishing a lake until there are no fish left in, and that a manufacturing process that results in poisoning fish and air that causes human cancers is an obscenity and a blasphemy. Jesus shows us by His example that it is acceptable for us to involve ourselves responsibly in using the earth to manufacture, buy and sell from each other. What is happening now is that we are consuming what we do not need and not enjoying it at all. We work without satisfaction to pay off debts for things we bought but did not need, while millions of others work themselves to death and barely have enough to survive on from one day to the next. And creation suffer and groan under the burden of such consumption. We need something to fix whatever is wrong.

4.7 Conclusion

In this chapter it has been noted that the creation of the world was for a purpose and for that matter mankind need not to destroy it but safeguard the integrity of creation. This discussion was done in the light of the observation that was made in the Amansie West District. The researcher has argued that creation was set for a purpose, that is, to serve as man's garden. If creation was made with an intention, then humankind must do all that they can to preserve the things that God created. If Christians or humankind cherish the things that have been created by God, then there is something that must be done. What the church must know is that God himself knows how to preserve it. But He does not stay with us, like creation.

One aspect that the researcher has also looked at is how the church can develop the Christian concept of education. In other words, how the Christian perceives the creation story. Indeed, Christians believe that God created the world (Universe) and placed Adam in the Garden of Eden. In the Garden of Eden, God gave man power to control everything. By this power man was able to control and continue creation by using the power given to man to transform the things that have been created by God for his benefits.

Over the past two decades, environmental degradation, including land degradation has continued to worsen, exacerbating poverty and food insecurity. Conversely, awareness of the importance of the environment and its conservation has increased. There has been a transformation in people's perception of the poverty problem in developing countries. If one accepts that hard core rural poverty is increasingly a phenomenon associated with marginal lands, then new strategies are required that integrate poverty alleviation and environmental management.

The researcher is aware that the Church has its own challenges and limitations. However, the church is a heterogeneous community and in most cases, the very key people who have been part of the problems of the environmental crisis of the country are influential and respected people of the Christian community. Once their bread gets buttered by managing institutions and companies that profit from the environmental problems of our country, these agents of multinational companies would stop at nothing in ensuring that the church does not join the growing forces against the forces of greed and destruction. The Church needs to rise above the dictates of men and women in order to fulfill its prophetic mission of full spiritual and environmental salvation. The Church has no other option than to state a strong position against the destruction of the environment and the exploitation of our natural wealth which ends up impoverishing people. The Church has to hearken to the call to protect God's creation.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The work as a whole looked at the issue of environmental degradation in the Amansie West District and the churches response to it. As part of the study, the researcher examined some biblical text to ascertain the Christian responsibility towards the environment, leading one to appreciating the wisdom and grandeur of God about the environment. These scriptures clearly reveal that as human, we have a divine mandate and a mission to care and maintain the environment as the garden of the Almighty God.

Again, the work also looked at a brief background of the Amansie West District. It touched on the various processes through which mining activities are carried out and how these activities affect the environment. A critical examination of the key processes reveal the damage to environment by small scale gold mining activities.

A closer look at how the church in the Amansie West District is educating people about environmental degradation was also examined. The work has also offered various practical ways which the church can adopt to help solve the problem in the district.

5.2 Conclusion

In as much as one can acknowledge from the study that environmental degradation is a serious issue that should not be taken lightly, there is the need to recognize the environmental degradation and vicious cycle of poverty that come with it in order to find ways of dealing with them. After a thorough investigation into the problem as pertains in the district and the Churches response to it, it has been realised that some individual and some communities in Amansie West, has been greatly affected by the operations of mining and “galamsey” activities.

There is also an incidence of pollution of varied kinds (that is air, noise and water) of the environment. Water pollution has affected mainly water resources within the area. All of the major streams and rivers in the area like Jeni, Ahinsu, Kwabrafo, Nyam and Emuna have been polluted by “galamsey” activities.

5.3 Recommendations

As part of the researcher’s observation and thorough analysis of the issues at stake, the followings recommendations are made for both the church and indigenes of Amansie West to address the problem of environmental degradation in the district.

- The church, in collaboration with The Environmental Management Department in the Amansie West District should revise its environmental management policy to ensure that the environmental effects of “galamsey” activities in the area are reduced to the barest minimum, especially communities like Datano, Koniase and Aboe.
- There should be rigorous efforts by the churches at re-forestation, resettlement of affected communities and other measures aimed at helping communities that are affected and also help restore back degraded lands to thier original state after “galamsey” activities. The District should provide alternative jobs that can help sustain the people in the communities.
- The churches should embark on serious campaign by organizing forums to educate people on the effect of environmental degradation and also educate it members on their role to protect the environment. The churches should preach and educate their congregation that the fragile environment on which they depend for their survival is being neglected or over-exploited, and it is now necessary to rehabilitate it and manage it sustainably. Churches should also teach their members that the environment belongs primarily to them as beneficiaries, and they must take the responsibility for the land and organize themselves in groups, cooperatives, development associations and local

associations to safeguard it. The Churches should also take it upon themselves and educate their members the alternative ways of earning income than always depending on mining/galamsey for their livelihood.

- There is the need for an effective collaboration and co-ordination among governmental agencies such as the Environmental Protection Agency (EPA), Non-Governmental Organizations (NGO's), the Ghana Minerals Commission, the Forestry Commission and others so that they can perform their roles affectively in dealing with the environmental and health problems associated with “galamsey” activities within the affected communities.

BIBLIOGRAPHY

- Addo Obeng, E., *Healing the Groaning Creation of Africa* in Getui and Obeng (eds) *Theology of Reconstruction*, 2006.
- Akabzee, T., T., and A. Darimani, *Impact of Mining Sector Investment in Ghana: A Study of the Tarkwa Mining Region* (Unpublished Report, 2001), Washington SAPRI, 2001).
- Amakye-Quayesi, Joseph, "Holy Jesus in a Dirty Environment: Appraising the Ghanaian Church's attitude to environmental matters" *Ogbomoso Journal of Theology*, Vol. XVII (1) (2012).
- Appiah, Ernest S., *A Religious Response To Environmental Degradation In Kumasi Metropolitan Assembly And Ejisu – Juaben Municipal Assembly*, Thesis Submitted To The School Of Research And Graduate Studies, Kwame Nkrumah University Of Science And Technology – Kumasi, November 2011.
- Asante, Emmanuel, "He who Possesses the Land Possesses Divinity, Spirituality and Land from Biblical and African Perspectives", *Trinity Journal of Church and Theology*, Volume XI, No. 182. January/July, 2001.
- Awortwi, S. & Awortwi, A. H., *Mind Your Environment: It is your life support*, 2010.
- Bullmore, Michael A., "The four most important biblical passages for a Christian Environmentalism", *Trinity Journal* 19 NS (1998) 139-162.
- Dadzie, Adarkwa- A., *Nature Kicks Backs*, (Tema, Ghana: EE Consult, 2002).
- DeWitt B. Calvin and Dave Bookless, "To Strive to Safeguard the Integrity of Creation and Renew the life of the Earth" In Andrew Walls and Cathy Ross (eds.) *Mission in the Twenty-first Century: Exploring the Five Marks of Global Mission* (London: Longman and Todd Ltd., 2008).
- Edwards, D., "Theological Foundations for Ecological Praxis", in M. Grey & C Deane-Drummond (eds), *Eco-theology*, England: Sheffield Academic Press Limited, 1998.
- Edwards, Denis, *Earth Revealing, Earth Healing*, Collegeville: Liturgical Press, 1995, 15.
- Gecaga, M.G., *Creative Stewardship for a New Earth* in Getui, M.N. & Obeng, E.A. (eds.) Kenya: Acton Publishers, Nairobi, 2003.
- Geisler, Norman, L., *Christian Ethics: Contemporary issues and options* (Grand Rapids, Michigan: Baker Academic Publishing Group, 2010).
- Hans, Schwarz, *Creation*, MI: Eerdmans Publishing Company, Grand Rapids, 2002.
- Harvey, Graham, Harvey, *Animism: Respecting the Living World* (London: Hurst and Company, 2005).

- Hilson, G., and C. Potter, "Structural Adjustment and Subsistence Industry: Artisanal Gold Mining in Ghana", *Development and Change* 36 (1):103-131, Institute of Social Studies, (Blackwell Publishing, Malden, 2005).
- Macionis, J. J., *Sociology*. 5th Edition, Annotated Instructor's Edition New Jersey: A Simon & Schuster Company, 1995.
- Jensen, K., "The qualitative turn," In K. Jensen & N. Jankowski (eds.), *A Handbook of Qualitative Methodologies for Mass communication Research*, (London: Routledge, 1991).
- Kessey Kwaku Dwumor and Benedict Arko, "Small Scale Gold Mining and Environmental Degradation in Ghana: Issues of Mining Policy Implementation and Challenges" *Journal of Studies in Social Sciences* Vol. 5, No. 1, 2013.
- Kumekpor, Tom K. B., *Research Methods and Techniques of Social Research: Sections 1 - 3*, Accra: Ghana, SonLife Press & Services, 2002.
- Manjunath, D. L., *Environmental Studies*, India: Chennai Micro Print Ltd., 2007.
- Mante, J.O.Y., *Africa Theological and Philosophical Roots of our Ecological Crisis*, Accra: Son Life Press, 2004.
- McFague, Sallie, *Supernatural Christians: How We should Love Nature*, Minneapolis: Fortress Press, 1997.
- Miles, M. B. & Huberman, A. M., *Qualitative Data Analysis: An Expanded Sourcebook* 2nd ed. (California: Sage, 1994).
- Miller, K.R., Reid, W.V. & Barber, C.V. "Deforestation and Species Loss" in Mathews, J.T. *Preserving the Global Environment*, New York: W.W. Norton and Company, 1991.
- R., Goodland, *Annual Review of Ecology and Systematic*, Volume 26, 1-24, (1995).
- Stott, John, *Issues facing Christians today* London: Marshall Pickering, 1990.
- , *New Issues Facing Christians Today*, Great Britain: Creative Print and Design, 1999.
- Strauss A. L. & J. M. Corbin, *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. 2nd ed., California: Sage Publications, 1998.
- Ter Haar, Gerrier, "World Religions and Community Religions: Where does Africa fit in?" occasional Paper (Centre for African Studies, University of Copenhagen, August 2001).
- White, Lynn. Jr., "The Historical Roots of our Ecological Crisis" in Granberg – Michaelson, W. *Ecology and Life: Accepting our Environmental Responsibility*, Texas: Word Books, 1988.
- Young, Richard. A., *Healing the Earth: A Theocratic Perspective on Environmental Problems and their Solutions*, Nashville, Tennessee: Broadman and Holman Publishers, 1994.

Internet sources

Davies, John, “Toward a Biblical Theology of the Environment”,
<http://reformedperspective.org/articles>, (accessed on the 15th of September, 2014), 2.

Ghana Minerals Commission, Developmental Projects <http://www.ghanamin.org/ghweb/en/ma/mincom/mcprojects.htm> I

The Coordinating Director, Amansie West District Assembly, Ashanti Region The Composite Budget report for 2013. www.mofep.gov.gh or www.ghanadistricts.com.

Mensah Kwame, ‘Environmental degradation a threat to Ghana’s economy’,
<http://www.spyghana.com/environmental> (accessed on the 20th of August, 2014).

Ghana News Agency, “Cost of environmental degradation is 3.7 per cent of GDP - President Mahama”
<http://www.modernghana.com/news/421377/1/cost-of-environmental-degradation-is-37-percent-o.html>. (accessed on 19th August, 2014).

APPENDIX 1

INTERVIEW GUIDE FOR CHURCH PASTORS

1. Sex
2. Level of Education
3. Title
4. For how long have you been a pastor?
5. How long have you been a member of this church?
6. What is the church's theology on the environment?
7. How many times do you preach on the environment?
8. Do you have any teaching materials on the environment?
9. What strategies are put in place by the church in dealing with environmental degradation?
10. Are you allowed to use your own initiative in preaching on the effects of environmental degradation?
11. Does your church receive complaints about environmental degradation?
12. What measure(s) have you put in place in resolving environmental degradation?
13. What do you think would be the challenges faced by churches in managing the degraded environment and its effect on poverty?
14. In your opinion, do you think environmental degradation have any impact on poverty?
15. In your opinion, what are the effects of environmental degradation on human kind?
16. Do you have any recommendation(s) to fight against the degradation of the environment and its effect?

* Field survey was conducted in September and November 2014.

APENDIX 2

INTERVIEW GUIDE FOR PEOPLE IN ABORE, DATANO, KONIASE COMMUNITIES

1. Sex
2. What is your level of education
3. What is your occupation?
4. Are you a citizen by birth or by migration?
5. If a migrant what brought you here?
6. How long have you lived in this community?
7. How do you see the galamsey activities in this community?
8. How has galamsey affected the farm lands you know about five to ten years ago?
9. What about the state of the water bodies in this community?
10. Has galamsey made your life better than before if you compare income level in galamsey?
11. Has galamsey affected the education in your community?
12. What about the moral lives of the people in your community?
13. Who are the main operators of galamsey in this community?
14. What are the countries of origin for the galamsey operators?
15. What do you think should be done to reverse the trend of environmental degradation?
16. Do you have anything to recommend as far as the destruction by galamsey is concerned?

* Field survey was conducted in September and November 2014.

APPENDIX 3



A typical example of deforestation



An excavator dredging a river which is a source of livelihood



Filth piled up causing environmental hazard



Galamsey workers digging a pit



A female galamsey worker with her men colleagues