

**RELIGION, ECOLOGY AND SUSTAINABLE DEVELOPMENT
THE AKYEM ABUAKWA EXPERIENCE**

BY

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**A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES, KWAME
NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY – KUMASI, IN
PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF**

MASTER OF PHILOSOPHY (RELIGIOUS STUDIES)

FACULTY OF SOCIAL SCIENCES

COLLEGE OF ART AND SOCIAL SCIENCES

DEPARTMENT OF RELIGIOUS STUDIES

AUGUST, 2012

DECLARATION

I hereby declare that apart from the sources specifically acknowledged in the thesis, this work constitutes the result of my research in the subject and that it has neither in whole nor in part been presented for another degree in this university or elsewhere.

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DEDICATION

This thesis is dedicated to the glory of the Almighty God. Also, I am greatly indebted to my family and I dedicate this work to them: my dear lovely and hard working wife, Mary Owusu Ampofo and my four pretty children, Michael, Evangelina, El-jude, and Annette.

ACKNOWLEDGEMENTS

I give thanks and praise to the Lord God Almighty who enabled me the strength and wisdom to complete this study.

I wish to express my profound gratitude to my Supervisor, Rev. Samuel Asiedu Amoako who, apart from supervising this research, has been inspirational in the course of the study. The Lord will definitely replenish his stock. I am also appreciative of the immense contributions of the faculty and staff of the department. I also wish to thank the following persons, Prof. Steve Amisah who has being my academic counselor and a brother, and Rev. Mrs. Comfort Ophelia Otoo. My thanks also go to Deacon Atuahene Gyamfi and the body of deacons, Dr. Paul Bosu, Osei Asibey Mensah my Field Assistant, Dominic Nkwantabisa Kuma, Esther Nyameche, Alfred Appiah, and Osei Assibey. Also, my gratitude goes to Elizabeth Ampofo Gyekye, Esther, Lawrence Twum Ampofo, Sylvia, Reynold, Martin, Isaac, Solomon and Philip Ampofo, without whose diverse support this project would not have been completed.

I am equally grateful to Lawrence and Mary Ampofo, my parents. Their wise counsel and encouragement have always being my source of confidence. Victory Baptist Church – Ayigya- Kumasi, also deserves special commendations for supporting me in the journey, God bless you. Finally, I am indebted to the Chiefs and people of Akyem Abuakwa Traditional area for their cooperation in the data collection process, God bless you.

Rev. Charles Owusu Ampofo

ABSTRACT

This study examines the interplay of religion, ecology and sustainable development in the Akyem Abuakwa Traditional area. The ecological threat facing Akyem Abuakwa has been real and that, the people are aware of the causes. The study depicts that, degradation is still on the rise and has gotten out of control and that, residents of these communities are left to suffer the consequences of ravaged farm lands, polluted river bodies, low food production and high cost of food items among others. It is in view of this apparent self destruction that the concept of sustainable development becomes relevant. With the notion that, the sacredness of nature in many religion is despised and that it has led to disenchantment with nature. The study sought to examine the role of the three main religious institutions in Akyem Abuakwa, namely, Christianity, Islam, and Traditional religion. Apart from examining the accusation that, Christianity and Islamic religions have mostly focused on the spiritual to the detriment of the physical, the research also explores the role of African cosmology: proverbs, taboos, and myths. Also, festivals, values, and many other norms and practices which have in the past served as a sturdy agent of sustainable development have been explored. The research further revealed that, traditional leaders have legitimate claim for holding, tradition, land and natural resources in trust for their ancestors, the living and the future generation yet, this trust have been abused by many of them. The study therefore, recommends that, matters of environmental degradation transcend the operations and efforts of a District/ Municipal Assembly or religious body. Consequently, the Central government, the Non Governmental Organisations, the Traditional Leaders, and rural folk in Akyem Abuakwa should make concerted commitment to the healing of the environment.

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LIST OF ABBREVIATIONS

D. C. E.	-	District Chief Executive
E. P. A.	-	Environmental Protection Authority
F. B. O.	-	Faith Based Organisation
F. C.	-	Forestry Commission
G. D. P.	-	Gross Domestic Product
K. J. V.	-	King James Version
N. G. O.	-	Non Government Organisation
N. P.	-	No Page
N. Y.	-	No Year
O. E. T. F.	-	Okyeman Environmental Task Force
S. D. A.	-	Seventh Day Adventist
W. C. C.	-	World Council of Churches
W. C. E. D.	-	World Commission on Environment and Development

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

In the 1970's, the ecological peril facing the world became a huge concern. Indeed, this concern has arisen mainly because of the depletion of the earth resources, pollution and sheer destruction and degradation of the environment. Granberg-Michaelson (1992:1) observes that, it has taken the Earth Summit in Rio (1992) to realise that development as traditionally understood had failed. How then can modern society embark on a course of ecologically sustainable development? Why do humans over exploit fisheries, forests, watersheds, farm soils or other parts of ecosystems that provide essential renewable resources?

Unfortunately, the role religion plays to help sustain the ecology has often been ignored and sidelined in national and international development theory and strategy. Gardner (2002:35) adds that, "For thousands of years, ritual has played a central role in governing sustainable use of the natural environment." He further stresses that, religion possesses one or more of five sources of power which might be helpful for reflection in any developmental endeavour. According to him, they shape people's worldviews, instil moral authority, have the ear of multitudes of adherents, often possess strong financial and institutional assets, and are strong generators of social capital, an asset in community building. This appears true because human attitudes toward nature have been consciously and unconsciously conditioned by our religious worldviews. In 1967 the historian Lynn White (1203-1207) observed this when he noted: "What people do about their ecology depends on what they think about themselves in relation to things around them. Human ecology is deeply conditioned by beliefs about our nature and destiny – that is, by religion." A case in point is the total exploitation of the crocodiles which were in a pond near the Ghana Water Company Water Treatment Plant site at Bolgatanga, when the public got to know that they could hunt them and receive no spiritual

harm. Garbrah (2000:63-73) believes that, the nation has as a result lost a tourist site which could have been far more attractive to tourists. White's article signalled the beginning of contemporary reflection on how environmental and developmental attitudes are shaped by religious worldviews.

Tucker and Grim (2000) add that, from resource depletion and species extinction to pollution overload, the planet is struggling against unprecedented assault. This seems aggravated by population explosion, industrial growth, and technological manipulation. From many accounts the basic elements which sustain life – sufficient and drinkable water, clean air, and arable land are at risk. A story is told by Schaeffer (1972:10) of Thor Heyerdahl when the latter made his famous voyage in the Kon Tiki. He was able to use the ocean water quite freely, but he says that when he recently tried to cross the Atlantic in a papyrus boat, the ocean water was unstable because of the large amount of rubbish. In real terms, ecological pervasiveness and social crisis are deepening with passage of time unless proper interventions are put in place and are enforced. As Ruether (2000) has succinctly observed, exponential growth curves in resource depletion, production, and species extinction will reach a point where they either crash disastrously or moderate and stabilize sustainably.

In Selinger view (2004:2), the dominance of modernization and secularization theories have been a key to religious marginalization. Therefore for development to be sustainable she noted, due recognition should be accorded to the impact and influence of culture on development strategy, and that, we must account for the specific role of religion in this. Religious systems seem to permeate the life and practices of the people of Akyem Abuakwa of Ghana in the way they interact with both their community and environment. A balance relationship between nature, culture and religion therefore might seem a vital ingredient to sustaining development of human and natural resources.

1.2 STATEMENT OF THE PROBLEM

“For the future and beyond, Africa will continue to suffer if she does not look to the past to recapture those values that ensured the survival of her people and their environment” (Manu, 1992). Unfortunately, religion which is perceived by many as a defining force within cultures and development agenda is in practice playing second fiddle to the excessive want for productivity and profitability in our world today. For instance, theories of development in Africa have devoted little or no attention to religion although in traditional thought, Akroming (1992:37) observes that, politics, economics, and religion are closely intertwined. Why does it seem that the role of religion is being ignored by policy makers? If sustainable world cannot be built without the full engagement of the human spirit (religion), why sidelining instead of embracing and appreciating religion?

It is a notion that, human wellbeing and freedom could be attained through the mastery of nature. It seems the search for nature’s sustainability has also brought to bear this unfortunate notion held by many people which over the centuries have guided their behaviour. With this attitude persisting, Field’s (1999:47) observation that, the ‘voiceless cry of the earth and its non-human inhabitants needs to be heard,’ is confirmed. It is in the light of this apparent self destruction that the concept of sustainable development becomes relevant. But how do we know for sure? How can we tell when we are on a path of sustainable development? How then can modern society do things nature’s way so that nature does not kick back? How is it possible to utilize nature and yet do not damage the ecosystems to such an extent that they lose their ability to provide essential services? How can sustainable development be achieved in practice? Within the frame of the above problem, this work will attempt to examine the role of religion vis-à-vis the coexistence of human and the use of nature’s resources for development in sustainable terms.

1.3 OBJECTIVES OF THE STUDY

Although varied opinions of the role of religion and ecology vis-a-vis sustainable development exist in Ghana, the only way to elude the dangers of anecdotal information is through research. From many accounts the basic elements which sustain life – sufficient drinkable water, clean air, and arable land – are at risk. Nations and States keep practicing unsustainable patterns of production and consumption. The challenges are formidable and well documented. The solutions, however, are more elusive and complex. Against this background the specific objectives of this study are to:

1. Investigate the role and impact of religion in the apparent ecological menace in Akyem Abuakwa.
2. Examine the role and impact of religion in sustainable development.
3. Discuss the causes of environmental degradation in the Akyem Abuakwa Traditional Area.
4. Examine strategies or options that may be pursued to ameliorate or alleviate ecological unsustainable development in the Akyem Abuakwa Traditional Area.

1.4 RESEARCH QUESTIONS

The research seeks answers to the following questions:

1. What are the factors that have given rise to environmental degradation in Akyem Abuakwa and how can they be forestalled?

2. What is the extent of ecological degradation in the Akyem Abuakwa traditional area, and how have the traditional leaders participated in the healing or otherwise of the ecology?
3. What advocacy role have the religious bodies played in addressing environmental degradation in the Akyem Abuakwa traditional area?
4. How does the concept of sustainable development understood by the inhabitants of Akyem Abuakwa and how has it been practised?

1.5 SIGNIFICANCE OF THE STUDY

This study is expected to further educate the traditional rulers and people of Akyem Abuakwa, policy makers on environment and civic educators, the religious leaders, farmers, estate developers, mining companies, and investors on possible repercussions unsustainable development might unleash on the people.

Secondly, the study is expected to highlight on factors that seem to motivate the community into straining the ecology. The study will foster civic education and subsequently enhance changes to people's attitude towards all life forms.

The findings of the research would also reveal religions' response to the sustainable development which may include reconsidering nature's role in God's overall plan.

Lastly, the study would contribute to the existing knowledge of the role of religions and the ecology vis-a-vis the sustainability of our development agenda. The study would further serve as a source of reference to researchers who will carry out studies on sustainable development, ecological degradation and the role of religion.

1.6 SCOPE OF THE STUDY

The researcher will focus and analyse the following areas:

- The Church, African Traditional religion, Islam and other religious bodies' structures and contribution to the ecological debate;
- The civic and the traditional leaders and their contribution to the debate;
- Research works would be investigated to ascertain their contribution to sustainable or else unsustainable development;
- Some individual's contribution would also be implored.

1.7 METHODOLOGY

The study is conducted following the procedures designed in this section. Stratified sampling technique will be applied in order to obtain a representative sample. The population sample for this study will consist of a total of 95 respondents. Against the backdrop of an indisputably strong religious and cultural matrix of the people of Akyem Abuakwa, this appraisal will stress the vital importance and continuing relevance of some of our fundamental attitudes towards ecology and development. The researcher will utilize both primary and secondary sources of data. The primary sources will explore information via interviews, questionnaires, published and unpublished works. In addition, 20 traditional leaders and 10 civic leaders from district councils will be interviewed. Data and information will also be gathered from secondary sources through a rigorous desk study. Primary data will be analysed using a qualitative approach. Analyses will be based on responses of questionnaires and interviews conducted over the study period.

1.8 PROBLEMS ENVISAGED

- The willingness of respondents and ability to respond to questions on time has been anticipated as a likely challenge. Additionally, financial constraint is a factor that undoubtedly reduces the sample size needed for observation and analysis.
- Be that as it may, it will not be of a surprise if interviewees show reluctance to participate in the survey despite the promised confidentiality. However, to reduce reluctance of respondents to answer questions, motivational strategy would be used to enhance participation.

1.9 LITERATURE REVIEW

Selinger (2004) argues that, religion has been ignored and marginalised in international development theory and strategy. Selinger observes that, the dominance of modernization and secularization theories has been a key to this marginalization. She asserts that, in marginalising religion in development theory, development agencies, theorists and practitioners have excluded a vital dimension of culture and social identity. The misconception of religion in the development discourse has always been focused on its use as a spiritual or institutional force, not as a cultural and social practice that governs worldviews and can directly influence social and economic development. The result of doing this has in fact hampered development in many communities.

Selinger (2004:529) further discusses that, religion is currently been taking into account and suggested that, in a postmodern era, religion would have a greater part to play in society. She explores why and how religion has been marginalized in the development discourse and

proposes that, it should be re-understood as a social factor in the postmodern age. Selinger stresses that, most non-Western societies and communities are still struggling to make transition from religion as communal to religion as individualistic. The research is based on the traditional land of Akyem Abuakwa where religion is embedded in the cultural practices of the people. The research will identify various roles religion has played in the development agenda of Akyem Abuakwa.

In his analysis of Christian ecological virtue ethics, Van Wensveen (2000) points out that, the type of inner realignment involved in the cultivation of ecological virtues thus differ significantly from the rational ordering required by Aquinas' virtue theory. She further alleges that, most of Aquinas' treatment of virtues such as justice focuses on relationships between human beings. Although, it does faintly include the "lower order" – that is the nonhuman creation; Justice between human beings and other creatures is surprisingly governed by general formula: "The imperfect is always for the sake of the perfect." Quoting from Wensveen, Lindemann (2005:71) asserts that, unlike Aristotle and many of his followers, ecologically minded people are not interested in character development for the sake of achieving personal harmony within an existing social system. Rather their dirty virtues are tied to a social vision for the future, a vision of ecologically sustainable societies.

Van Wensveen (2000) postulates that, when we cultivate ecological virtues, we move across a physical-spiritual spectrum where both dimensions can be simultaneously present at all levels of cultivation into "worldly" and "other worldly" aspects. She cites an example that, in environmental circles the virtue of humility tends to mean knowing your place in a dynamic web of earthly relations. Therefore, the idea of individual salvation for instance, belongs to a larger story of the liberation of all creation. This will also imply a mutual enrichment and correction among the human and non-human creation without the problem and cover-ups

caused by strong differences. The research will explore further this subject matter and will investigate the saying that, “The imperfect is always for the sake of the perfect.” To what extent are the people of Akyem Abuakwa susceptible and guilty of the saying?

This is a review of *Summa Contra Gentiles* 3.2.112-13 translated by Vernon Bouke, University of Notre Dame Press, 1975, pp. 93-102 and captured by Robin Gill (2002). *Summa Contra Gentiles* was explicitly written by Thomas Aquinas for a non-Christian audience and, hence, characteristically it argues initially from reason rather than from Christian revelation. The intellectual system of Christianity in the 13th century was facing major challenges, both from the Islamic world and from the naturalism of secular culture. Aquinas wrote as an attempt to demonstrate the reasonableness of Christianity in the face of this Graeco-Islamic intellectual threat and devoted this third work to providence and human being’s relation to God. Thomas Aquinas further proposed four primary Christian virtues: justice, prudence, temperance, and fortitude. The researcher believes that, regardless of one’s own faith and commitment, these can be a sound basis for engaging in environmental leadership, dialogue and practice.

The summary of the key issues of Aquinas’ thought on creation and divine providence may be put into two main categories: Firstly, the rational creatures are subject to divine providence in a special way. Here, Aquinas argues that divine providence extends to all things. This implies animate and inanimate aspects of creation alike are sustained by the providence of the creator, God. Secondly, the rational creatures are governed for their own sakes, while others are governed in subordination to them. These creatures are naturally subject to slavery; only the intellectual creature he claimed is by nature free.

The researcher agrees with Gill (2002:380) that, Aquinas virtue theory does not value non-human life as having value in itself. In his perspective, only the rational is valued as having

inherent value. Everything else is therefore subordinated to serving rational life, although, rational humans may change over time in the perception. This work will therefore investigate and bring to bear nature's inherent value.

In his work "Tradition as a way to the future: An African perspective", Asare Opoku (1998) asserts that tradition and religion are interlaced, so connected that one cannot speak a traditional language or act in gestures without acting religiously in Africa. Development therefore becomes a feature of culture in so far as it is the outcome of the citizen's attempt to cope with their living environment. With such understanding embedded, Opoku submits that, development is "the systematic realization of the full potentialities not only of the individual members within a society or nation, but also of the society or nation as a whole." It is therefore useful, he noted, to take a critical look at the concept of development in this context.

Opoku's work suggests that, he believes in integral or holistic development and that the popular notion that, the traditions themselves are the stumbling blocks in the way of what is called "development", is laughable and myopic in scope. In his view, African proverbs and myths, festivals and values, and many other norms and practices have in the past served as a sturdy agent of sustainable development. The challenge today, he declared, is how we can fashion these cultural norms into more useful developmental agents in our current cultural milieu. From Opoku's stand point, the Western definitions of development are myopic in scope. It emphasised rather on the materialistic and pure growth rate – economic productivity, high standards of living, technological advancement, and basic needs such as food, shelter, and clothing, and political independence – to the exclusion of other factors.

Genuine development, Opoku concedes, must be based on the concept of humanity in his or her full dimension and not on some aspect of his or her nature. The way forward is to build on our own foundations and not the effort of catching up with those whom we believe may be ahead of us. He points out that there is a basis in our cultural heritage which can provide a foundation upon which to build; and we must try to liberate ourselves from the fiction that our inherited tradition, our culture, is opposed to scientific and technological development. The researcher would highlight some cultural norms of Ghanaians that foster sustainability. This work will as well examine the missing link in the Western developmental practices – unsustainability – which is threatening our world today.

In his article, “Our problem of knowledge: Brief reflections on knowledge and development in Africa,” Kwasi Wiredu (2000) makes an observation that appears to reinforce Opoku’s view on development. Wiredu posits that, development does not include only the cultivation of science and the technical applications of its results (e.g. economic productivity) but also the actual practice of such applications in the promotion of human well-being. Scientific and technological advancement do not of themselves ensure the attainment of humanistic ideal, Wiredu admitted. Ideal in this context he defined in terms not only of human but also of humane value. By this, Wiredu seeks to suggest that, there should exist a condition so conducive that both the individual and the societal interest can intrinsically be bound up. Wiredu’s thesis clearly disputes the notion that technology naturally leads to development because he thinks it is devoid of humanistic ideal and humane value. The researcher believes that ecological management and reverence, like the humane value of Wiredu, is equally important to creation’s survival and must be highlighted. Humanistic ideal can only find expression on a liveable ecology; this work will therefore explore ecological virtue.

Better still is the Dudley Seers' conceptual meaning of development in the presentation of Amegashie-Viglo (2004). Seers conceived of development not only as an economic growth but also as those conditions under which people in a country have adequate job opportunities (it grants food, shelter, etc), and reduction in poverty and inequality. In his proposition, if one or two or all of the three central problems have been growing worse, then it would be strange to call the result "development" even if per capita income had doubled. Amegashie-Viglo further outlines four theories of development which he says, has emerged over the past three or four decades. The Linear Stage Model requires that, the right quantity and mixture of savings, investment and foreign aid were all that were necessary for all third world countries to achieve industrial growth – development. The Neo-Classical Structural Change Model emphasises on transforming underdeveloped economies from traditional subsistence agriculture to modern and industrialised economies. Here, scientific logic would replace traditional values. The researcher believes that, this model like the earlier one despises the role of religion in developmental agenda. According to Amegashie-Viglo, Dependency and Underdevelopment Theories also create a kind of relationship that exists between a developed nation and a developing one such that resources are siphoned by the former. The Marxist Theories of Development persist in economies where the state controls factors of production. The researcher sees little or no emphasis on nature and the role of religions in the coining of these development orientations. He will therefore examine what has been left out; whether religious values for instance, can influence human attitude towards the use of nature.

Gerrie ter Haar in his article, "Religion in the development debate, relevance and rationale" observed that, religious believers have a religious understanding of development. Such understanding, he admits, is able to help connect success and progress in the material world with spiritual growth and inner progress. Haar, upon reflecting on what appears like the views

of many religious believers said that, "inner transformation is a necessary condition for social transformation and that without spiritual progress there can be no material progress. The researcher seems to agree with this logic.

Rosemary Ruether (1978) examines the ecological crisis with reference to the Biblical vision. However, in the mid-'60s there were two major movements of dissent from this model of "developmentalism." One of them occurred primarily among social thinkers in the Third World, especially Latin America, who began to reject the idea of development for that of liberation. A second dissenting movement appeared, primarily among social thinkers in advanced industrial countries. This movement according to Ruether, focused on the issue of modern industrialized societies' ecological disharmony with the carrying capacities of the natural environment. It dealt with such issues as air, water and soil pollution, the increasing depletion of finite resources, including minerals and fossil fuels; and the population explosion. Social justice and the ecological balance of humanity with the environment were in conflict.

Ruether quotes Theodore Roszak's work, "Where the Wasteland Ends," who saw the ecological crisis in terms of the entire Western Judeo-Christian reality principle. Tracing the roots of this false reality principle to the Hebrew Bible itself, Roszak, among others, considered the heart of the ecological crisis to be the biblical injunction to conquer and subdue the earth and have dominion over it (Gen.1:28). In order to reverse the ecological crisis, Ruether believes, we must go back to the root error of consciousness from which it derives. We must recover the religions of ecstatic kinship in nature that preceded and were destroyed by biblical religion. The researcher is of a different view, and does not agree entirely with Ruether's interpretation. Subduing the earth and having dominion over it does

not appear to give humans the mandate to destroy nature. The research will therefore draw out the meaning and the understanding of this command as it has the tendency to influence the way nature is utilized.

Akrong (2003) also examines African Traditional Religion vis-a-vis development. He concerned himself with discussing and highlighting the meaning, interpretation and values when traditional religion and culture, confront the “modernist logic of developmental discourse”. He examines the role of religious and cultural values of the people in the development and modernization process and diffused the view that Westernization is synonymous to development, describing it as “acculturation in the name of development.” Akrong believes that, theories of development in Africa have devoted little or no attention to religion although in traditional thought; politics, economics, and religion are closely intertwined. Akrong stresses that, a focus on religion as a factor in development is crucial to national and global transformation processes. It is worth admitting that, the research has been stimulating and insightful especially, when he observed that, in African religion moral values serve as the criteria of desirable selective behaviour, regulating the impulse of satisfaction and developing self-control. He concludes that, in a complex process like development, where many variable choices are at stake, values, myths, and norms are indispensable in determining its sustainability.

Oduyoye’s (2001) discussion on development is embedded in the exploitation of the Africans by the Europeans and Arabs, and how that has retarded development in Africa. She cites how Belgium’s hunger for latex for instance, urged them to use Congolese to degrade their own

thick forests and ecology and left the latter in a deplorable state. Oduyoye reckons that Africans, upon realising the European exploitation, have since seen the need to emancipate themselves from mental slavery which gave rise to the political and economic independence. Yet till today, she concedes, economic developments in Africa continue to be tied to the needs of Europe. “We grow more yams, pineapples, and bananas; we weave more baskets and carve more drums, all for export” she noted. This means that land, trees and other forest produce are being depleted with little effort at replenishing them. Oduyoye appears strong in her appraisal of the European unsustainable attitude towards nature and African religious and cultural values which beforehand had preserved the people and their environment. The researcher will place emphasis on the issues raised but more will be discussed on how much Africans themselves continue to contribute towards the depletion of our ecology, religion and culture.

Francis Schaeffer’s (1972) view on pantheism found expression in Richard Means article entitled, “Why worry about nature?” Schaeffer (1972:23) argues that, Pantheism has been pressed as the only answer to ecological problems. On one hand, Schaeffer seems to agree with Mean when the latter expressed that, man’s relation to nature is a moral crisis because, it is a historical one involving man’s history and culture, expressed at its roots by our religious and ethical views of nature. On the other hand, he contends with Mean in his use of the Western term “God’s creation”. Schaeffer claims, the term “God’s creation” has no real place in pantheistic thinking; Pantheists rather perceive creation as only an extension of God’s essence, *ex deo*, not *ex nihilo*, “out of nothing,”. From this premise, pantheists, according to Schaeffer (1972:30), will romanticize nature and desire to project human feeling into nature. Romanticizing means that one looks at nature and projects into it man’s reaction. Clearly this would mean that, one would look at a goat or tree and think of it as though it were reacting as

a man reacts. In Schaeffer's view, the only reason human is called upon to treat nature well is because of its effects on humanity, both now and then. Consequently, Pantheists' answer to ecological crisis is not just a theoretically weak answer, but it is also weak answer in practice. The researcher seems to be in harmony with Schaeffer's view expressed above and will investigate into why nature should or should not be romanticized.

Young (1994) in his work entitled "Healing the Earth," illustrates a theocentric perspective on environmental problems and their solutions. He discusses charges labelled against Christianity and submits that, the objections raised have some validity in them. The most common charge against Christianity is that God's injunction in Genesis 1:28 to subdue the earth and have dominion over it give humanity a divine sanction to plunder the environment for selfish interest. Another criticism is that, Christianity does not restrain population growth. According to Gen. 1:28, God commanded Adam to "be fruitful and increase in number; fill the earth and subdue it." Anthropocentrism is the belief that humanity is the central fact and final aim of the universe and this is another criticism. Many find the roots of Western anthropocentrism in Christian theology. Critics claim that, throughout the history of the church, there has been a strong tradition that emphasises the divine-human relationship rather than the divine-human-nature relationship. Furthermore, Pantheistic-minded environmentalists criticise Christianity's victory over pagan animism because it has resulted in the desacralisation of nature. Another charge is that, Christian traditions believe in dualism which encourages contempt for and a devaluation of the physical as if it is corrupted and demonic infested. Young noted that, the Christian response to the environmental crisis should be twofold: first, a change in perspective; second, a change in activity. Are all these charges true and reliable? For instance, is it right to accuse the Christian brewed modern Science and

technology for all the ecological degradation? The research will investigate the above charges and establish their validity or otherwise.

Hartmut Bossel (1999) in his work “Indicators for Sustainable Development,” argues that, finding appropriate indicators of sustainable development for a community, a region, a country, or even the world is not an easy task. In previous times, sustainability of humankind was taken for granted and did not appear as an explicit goal. It certainly was an implicit goal: no human society has ever consciously promoted its own unsustainability. To *sustain* means “to maintain; keep in existence; keep going; prolong.” But Bossel contends that, sustainability does not make much sense for human society if applied only in this sense. Human society cannot be maintained in the same state without a change, whatever it should be. Human society is a complex adaptive system embedded in another complex adaptive system—the natural environment. Sustainability is a dynamic concept; this implies that, societies and their environments, technologies and cultures, values and aspirations are all subject to change. The shape and form of a sustainable society therefore must allow perpetual change in order to be sustainable; it can neither be planned nor predicted. The researcher finds Bossel’s point of view quite investigating since the exact reasonable limit of changes the ecology needs to stay sustainable is not stated.

Asante (1994-95) quoting the U.S. President’s Science Advisory Committee (1965) said, “Environmental pollution is the unfavourable alteration of our surroundings, wholly or largely as a by-product of man’s action, through direct or indirect effect of changes in energy patterns, and radiation levels.” The definition, according to Asante, puts the blame of environmental pollution on to doorsteps of humanity. Asante evaluates the limitations of the

two proposed solutions, Pantheism and Gnosticisms. Pantheism which he defined as the belief that God is everything and everything God can lead to the romanticisation of nature. Similarly, Lynn White argues that the Christian idea of God who can only be experience through revelation removes spirit from nature and opens the way, in an ideological sense, for human exploitation of nature. Gnosticism has also been considered as a solution to the ecologic crisis. Gnostics define Christianity in terms of platonic dichotomy of reality into matter and spirit. Gnosticism holds a negative view of creation, that, the creation is evil created by an inferior god. They believe “life” and the “saving of the soul.” According to Asante, a Christian who is pre-occupied with spiritual things to the disadvantage of the material is only revealing a Gnostic tendency. Central to the Christian understanding of nature is the concept of creation (Gen.1:1). Asante noted that, God has always existed, even though everything else has a beginning. It follows that, creation owes its being to God, who is the Creator of everything. Furthermore, creation as the work of God is good (Gen. 1:31). Asante asserts that, the creation accounts (Gen. 1-2) clearly defines humanity’s relationship with the created order in terms of a responsible dominion which finds expression through tender care and respect for nature. The researcher believes that, God treated creation with integrity and that, he does not despise it; therefore humanity should do likewise. The research will observe religious contributions and attitudes toward nature.

In their paper, “Religion and Ecology: Can the Climate Change?,” Tucker and Grim (Fall, 2001) stated that, despite abundant information about our environmental impact, human activities continue to reshape the ecology and the toll on people and the natural environment and social systems feed on each other. However, sustainable development has been critiqued by some environmental, labour, and human-rights organizations as it often lead to globalization of capital and the homogenization of cultures. They have argued that, new

forms of equitable distribution of wealth and resources other than sustainable development need to be implemented.

According to Tucker and Grim, one significant effort to address this growing inequality around issues of sustainable development is the Earth Charter, which arose out of the 1992 Earth Summit in Rio. The Earth Charter consists of sixteen key principles under four headings: respect and care for the community of life; ecological integrity; social and economic justice; and democracy, nonviolence, and peace. A second important document, "World Scientists' Warning to Humanity," was produced by the Union of Concerned Scientists in 1992 and was signed by more than two thousand scientists, Tucker and Grim alleged. This document also suggests that the planet is facing a severe environmental crisis: "Human beings and the natural world are on a collision course. However, in 1975, at the fifth Assembly of the World Council of Churches (WCC) in Nairobi, there was a call to establish the conditions for a "just, participatory, and sustainable [global] society." The 1983 Vancouver Assembly of the WCC revised the theme of the Nairobi conference to include "Justice, Peace, and the Integrity of Creation." Has there ever been a charter on environment and development, and is there any road map document that has been developed to structure the use of natural resources by the Akyem Abuakwa Traditional Area? The researcher will look into this.

1.10 ORGANIZATION OF THE STUDY

This study has been organised into six chapters. The first chapter (introduction) presents background to the study, statement of the problem, aims and objectives of the study, and research question. It further presents significance of the study, scope of the study, the methodology, the problems envisaged, literature review, and the organization of the study.

The second chapter examines the ecological crisis in relation to religious responses. The third chapter discusses cultural and religious practices of the Akyems and observes how they interplay with the environment. In chapter four, we present detailed discussions on sustainable development, resilience and adaptive management of the environment. The chapter will as well examine some causes of environmental degradation. Chapter five seeks to present a report on field work; analysis and interpretation are also done in the chapter. In chapter six, the research is concluded. It will present the summary of the main findings, conclusion, and recommendations.

CHAPTER TWO

RELIGION AND ECOLOGY

2.1 INTRODUCTION

Unlike the previous chapter (one) which presented the background to the study, statement of the problem, aims and objectives of the study, research question, literature review among many others, this chapter seeks to explore the relationship between Religion and Ecology. Haring (1981:167) believes that, a rational being can be truthful in this world only if he allows a caring and responsible relation to things and the world. Mead and Fairservis are further quoted by Haring (1981:169) as saying that, “among the great cultures of the past, there were some that undermined their future by irresponsible attitudes towards nature.” The chapter will discuss some various models of religious thoughts and traditions that either have a conflicted relationship or a harmonised relationship with the ecology.

2.2 DEFINITION: RELIGION AND ECOLOGY

The study of religion and ecology according to Tucker and Grim (2001:16), explores the many ways in which religious communities ritually articulate relationships with their local landscapes and bioregions. Religious ecology therefore gives insight into how people and cultures are able to create Human-Earth relations and the practical means of sustaining and implementing these relations.

Young (1980:162) suggests that, religion may be defined in two ways, descriptively and normatively. The descriptive, he states, is concerned with religion as it is actually found in man’s experience, while the normative endeavours to set forth what a religion ought to be. Tucker and Grim (2001:14) add that, “religion is more than simply a belief in a transcendent deity or a means to an afterlife.” It is rather, as they put it, “an orientation to the cosmos and our role in it.” This definition, according to Tucker and Grim (2001:14), make apparent the

limitations of phenomenal reality, hence the need for human specific practices which have often brought about self-transformation and community cohesion within a cosmological context. Religion consequently refers to those cosmological stories, rituals, ethical norms and practices. It connects humans with a divine or mystical presence, with the human community. Tucker and Grim (2001:14) have further suggested that, religion situates humans in relation to both the natural and human worlds with regard to meaning and responsibility.

For some traditions this is a creator deity; for others it is a numinous presence in nature; for others it is the source of flourishing life. According to Tucker and Grim (2001:14), this experience of a creative force gives rise to a human desire to enter into processes of transformation and celebration that link self, society, and cosmos. The individual is here linked with the larger human community and thus, to the ecosystems. Be that as it may, humans can neither disassociate from nor despise the other created forms. Young's separation of religion into descriptive and normative should therefore be reconciled in real terms to establish a stronger connection between human and the ecosystem.

Religions are key shapers of people's worldview and formulators of their most cherished values and so religious participation in ecological endeavour is crucial. According to Sullivan (2000), human beliefs about the nature of ecology are the distinctive contribution of our species to the ecology itself. Religious beliefs especially, those concerning the nature of powers that create and animate, become an effective part of ecological system.

It appears the case that, religious worldviews are all-encompassing because they fully absorb the natural world within them. Sullivan adds that, they provide human beings both a view of the whole and at the same time a penetrating image of their own ironic position as the beings

in the cosmos who possess the capacity for symbolic thought: the part that contains the whole or at least a picture of the whole - within itself.

2.3 LYNN WHITE AND OTHER CRITICS OF THE ECOLOGY

Would it be a reckless assertion or otherwise to suggest that People of all religions, cultures, and nations may have to accept responsibility for the environmental damage that humanity has caused? Undeniably, humanity has lost the sense that we are part of a living and dynamic ecosystem whose welfare or otherwise invariably reflects on the worth of human life. Nevertheless, the distinct role that Christianity has played in this regard, in Conradie's (2011:5) view, should not be underestimated.

In the late 1960s there rose a spate of what might be called theological or religious responses to the ecological crisis, primarily in advanced industrial countries. White, as adopted by Schaeffer (1994: 97-115), brilliantly traced the origin and consequences of the ecological crisis and alleged that, Judeo-Christian theology was fundamentally exploitative of the natural world. White gives three reasons to explain his assertion:

Firstly, Christianity's victory over pagan animism desecralised nature and thereby removed the restraints that prevented people from mistreating nature.

Secondly, God's only purpose for nature, according to Genesis, was to serve human needs.

Thirdly, Human transcendence over nature gives human beings the right to manipulate and exploit it to suit their own interest. This is to say, Christianity makes a distinction between man, formed in God's image, and the rest of creation which has no "soul" or "reason" and is thus inferior.

2.3.1 Desacralisation of Nature

Compared to the emphasis on the sacredness of nature in most other religions, Conradie (2011:5) admits that, the Judeo-Christian doctrine of creation, with its emphasis on the distinction between the Creator and the created order, has led to a “disenchantment of nature.” White, on his part, adds that Christianity, in absolute contrast to ancient paganism not only established a dualism of man and nature but also insisted that it is God’s will that man exploit nature for his proper ends. White further admits that, the Christian notion of a transcendent God, removed from nature and breaks into nature only through revelation, removes spirit from nature and allows, in an ideological sense, for an easy exploitation of nature. White (1972:112) continues, “To a Christian a tree can be no more than a physical fact. The whole concept of the sacred grove is alien to Christianity and to the ethos of the West.” The biblical religions have therefore been accused of having expelled the god’s from the mountain, forests and streams once and for all. According to White (1972:112), what people do about their ecology depends on what they think about themselves in relation to things around them. His perspective of human ecology is that which is deeply linked and conditioned by the religious beliefs, practices, and aspirations of any people group. As the case may be, religious attitudes of Indians and Africans towards the created order are candid example of White’s assertion.

2.3.2 God’s Only Purpose for Nature

Like White (1972:11), Reuther (1978:113) blames Christian ethical outlook for the ecological crisis. She buttress her claims with reference from Roszak’s ‘Where the Wasteland Ends’, and depicts the ecological crisis in terms of the entire Western Judeo-Christian reality principle. Tracing the roots of this false reality principle to the Hebrew Bible itself, Roszak was quoted by Reuther (1978:11-14), considered the heart of the ecological crisis to be the

biblical injunction to conquer and subdue the earth and have dominion over it. For Roszak and Reuther, this conquest-and-dominion approach turned nature into a subjugated object and denied divine presence in it. Similarly, White (1972:107,111) describes the Western form of Christianity as “the most anthropocentric religion the world has seen” and concludes that, “Christianity bears a huge burden of guilt” for the environmental crisis that threatens our very existence.

For White, these destructive beliefs are Christianity’s legacy to the post Christian world. He adds that, “More science and more technology are not going to get us out of the present ecological crisis until we find a new religion or rethink our old one.” Humanity therefore could no longer stand in contemplation before nature or enter into worshipful relations with it. There is no inter-connectivity or inter-relatedness between humanity and nature rather, the picture that persists is that, humanity has become master over nature. A sense of the ecstatic kinship between humanity and nature has been destroyed as well as divinities driven out; the ecology now stands on its own against the consuming fury of humanity.

2.3.3 Human Transcendence over Nature

In a similar consideration, Conradie (2011:5) observes that, the notion of “dominion” over nature has given impetus to the rise of Western science since it encourages empirical investigations of nature. Many scholars, such as White (1967), Conradie (2011), and Nash (1991) have insisted that modern science is an extrapolation of medieval natural theology while industrial technology constitutes a realisation of the Christian notion of human mastery of nature.

Conradie (2011:5) seems to agree with Toynbee when the latter stated that, the command in Genesis 1:28 to have dominion and subdue the earth both permitted and directed humanity in

exploitative attitudes to the environment. Similarly, Nash's contention that, Christianity's anthropocentrism, dualism, other worldliness and hierarchical worldview lie at the root of environmental destruction and leaves nature as "other" and thus fully exposed to human greed has been observed by Conradie (2011:5). Passmore makes an observation which is quoted by Young (1994:11) that, "Christianity has encouraged man to think of himself as nature's absolute master, for whom everything that exists was designed." One agrees with Young (1994:13) that, the bulk of the preaching and moral teaching of the church focus on one's relation to God or one another, not to the rest of creation. But there should be a favourable balance between humans' operations and nature conservation. According to Young (1994:107), the lack of this cohesion led White to remark, "Especially in its Western form, Christianity is the most anthropocentric religion the world has seen."

Apart from the above criticisms, the Church has also been accused of dualism. Dualists perceive the spiritual and physical as antagonistic polarities that demand a choice to be made (Young, 1994:239). He adds that, often the spiritual is overemphasised at the expense of the physical, relegating it to a second-class realm of existence. Conradie (2011:7) concludes that, Judeo-Christian traditions and legacies focused almost exclusively on the salvation of the soul from the world. In this way it shows disdain for the biophysical world and gave tacit permission for environmental degradation to proceed. Asante (1994-95:12) however has this to say, "A Christian who is pre-occupied with spiritual things to the disadvantage of the material is only revealing a Gnostic tendency." In the light of Asante's observation, the physical dimensions of nature; the nurturing and stewardship of the other life forms should be sturdily inculcated into the Christian worldview. This should be particularly so because Climate change, for instance, has been perceived not only from a spiritual dimension but also from a moral and material dimensions.

Many critics hold the view that, Christian apathy toward the ecology is directly linked to the belief in eschatology – the second coming of Christ. The belief that God will remove believers from the world and then utterly destroy it seemingly negates any basis for environmental concern. Young (1994:17) supposes that, the world is considered as the devil's playpen. It has been contaminated by human sin, placed under a divine curse, and is awaiting predestined annihilation. Consequently, Christians distinguish between the spiritual and the natural, the sacred and the secular with little or no concern for the worldly or the material. Some critics further allege that, the degradation of the environment is a cause of rejoicing for some Christians, since it is another sign that Christ's coming is at hand.

2.3.4 Is Nature Evil?

The concept of nature as evil and alien to humanity began basically in late apocalyptic and Gnostic thought in the Christian era. According to Reuther (1978:114)), the divine was driven out of nature not to turn nature into a technological instrument, but rather to make it the habitation of the devil; the religious "man" should therefore shun it and flee from it in order to save "his" soul for a higher spiritual realm outside of and against the body and the visible, created world. Christianity and certainly Judaism objected to this concept as a denial of the goodness of God's creation, though Christianity became highly infected by this negative view of nature throughout its first few centuries. Reuther (1978:113) has suggested that, in order to reverse the ecological crisis, therefore, humanity must go back to the root error of consciousness from which it derives. Nature should not be seen as the habitation of the devil rather, humanity must recover the religions of ecstatic kinship in nature that preceded and were destroyed by biblical religion.

2.4 RESPONSE TO LYNN WHITE CRITICISM

In response to the accusations in Lynn White's thesis and that from the other critics, many Christian apologists have offered a defence for Christianity. They have argued that Christianity, if interpreted adequately, is not the cause of the environmental crisis but a part of the solution to it. Conradie (2011:6) admits that, the problem is not the message of the Bible, or the Torah, or the Judeo-Christian faith but the destructive legacy of skewed interpretation.

The beginning of the Christian view of nature is the concept of creation: that God was there before the beginning and that God created everything out of nothing. This implies that, created things are unique and have an existence in themselves. According to Anderson (2005:184), a Christian view of ecology strikes a balance between naturalistic and pantheistic extremes. Naturalistic view appears wrong because it alienates humans from nature so that we deny our link with the rest of creation. When people are estranged from nature, and there seem to be no interconnectedness and interrelatedness with the rest of nature, any pursuit of progress can be justified and environmental exploitation may result. A pantheistic view, on the other hand, appears wrong because it does closely and exclusively identify people with nature. Humans are not to abuse the environment, but they are to use it responsibly. Pantheists often see killing animals or cutting down trees as improper since they believe humanity must become one with nature.

2.4.1 The Creator-Creature Relationship

One must establish that, God did not create out of necessity or deficiency but out of His freedom and goodness. Truly, God is ever-complete and would not require the complement of the created order for fulfilment. In Berkhof's (adopted by Young, 1994: 84) view, creation is that free act of God whereby He, according to His sovereign will and for His own glory, in

the beginning brought forth the whole visible and invisible universe, without the use of pre-existent material, and thus gave it an existence distinct from His own and yet always dependent on Him.

According to Young (1994:89), any view outside this would be contrary to the biblical concept of God. From the biblical perspective, the creator of the universe alone is Deity and therefore, the ultimate source and sustainer of nature. It has been said that, humans have been depicted in the creation stories as three-dimensional beings. Ongong'a (2003:47) concedes that, Adam and Eve were programmed to survive the relationship with the natural environment, and relate honestly with one another and finally with God. Contrary to the above is the assertion by White which is quoted by Young (1994:13) that, the Church's tradition emphasizes the divine-human relationship rather than the divine-human-nature relationship.

2.4.2 Biblical position on the Ecology

From the above working definition, biblical position on the ecology within the context of the first two chapters of Genesis shall be discussed. This shall be done under the following headings: Out of nothing (*ex nihilo*) or Out of God (*ex deo*); Image of God (*imago Dei*); and subdue" (*kabas*); rule (*rada*); and care (*shamar*).

Genesis begins with the ecological affirmation, "In the beginning God created the heavens and the earth" (Gen. 1:1). God created out of His Free will (Isa. 46:10), for His own glory (Ps. 8:1), and out of nothing or *ex nihilo* (Gen. 1:1; Job 26:7; Rom. 4:17). It is evident that, creation is not an extension of the essence of God (i.e. out of God) or *ex deo*. Clearly also, the whole of what now exists was begun by God's act of bringing into existence. Erickson

(1994:369) argues that, God did not fashion and adapt something which already existed independently of him; consequently, He did not use any antecedent material cause. In Paul's view, as it is the case in Romans 4:17, God "calls into existence the things that do not exist."

Created things are real; and have existence in themselves; and were created out of nothing or *ex nihilo*; and they are not the same as God as pantheists have supposed. According to Young (1994:62), God created the entire natural order as a complex interrelated ecosystem that cannot exist in isolation from his sustaining influence (cf. Col. 1:17). If God created the world out of nothing, then by logic, the world and everything in it are not of the same essence as God. However, since "God saw all that he had made, and it was very good . . ." (Gen. 1:31), it is emphatic that God's handiwork has value and is absolute, humankind is therefore to treat it with special care. This would include all forms of animate and inanimate things.

2.4.3 *Imago Dei* (Image of God)

In a few texts in Genesis (1:26-27; 5:2; 9:6) man is said to have been created "in" or "as" the image of God, "according to his likeness", not animals, plants, or any other part of the created order (Gen. 1:27). According to Augustine (Gill, 1995:93-102), the dominion of humans over other creatures is an indication that it is the unique rational minds of human beings that reflect the "imago Dei" (image of God).)

On the contrary, Douglas *et al* (1993:508) have stated that it is the whole of man, rather than some parts or aspects of him, that is the image of God. Elsewhere in the ancient Near East it is usually the king who is said to be the image of God, but in Genesis 1, it is humanity that is God's vice-gerent and representative. "Imageless" being would have used his right to ransack nature to satisfy his greed and yet would have no conscience or a sense of guilt. Instead, God

furnishes us with unique gifts (i.e., his image) to manage God's creation in a responsible manner (cf. Gen.2:15).

Humans therefore have godly powers to transform and create but are not to dominate, destroy and perpetuate nature with degradation. Unfortunately the image of God in humans and our transcendence over nature, according to Young (1994:69), have been emphasised more than we have emphasised our immanence in nature. The immaculate image of God in humans appears to be yearning for eco-balancing and eco-justice; the following texts are definite about the fact that humans are only stewards:

The land must not be sold permanently; because the land is mine and you are but aliens and my tenants (Leviticus 25:23).

Who has a claim against me that I must pay? Everything under heaven belongs to me (Job 41:11).

The Biblical references above suggest that, the Christian has the responsibility to manage the eco-system with a mindset of a steward. Humans' stewardship mandate therefore demands that he or she exercises a thorough responsibility through care and respect for nature. It should be noted that, future generations have an equal right to a rich plant and animal world, healthy air and fertile soil, clean and sufficient portable water. Clearly, we are stewards and not owners of nature.

2.4.4 *Kabas* (subdue); *Rada* (rule); *Shamar* (care)

The ecological crisis alleged to have been caused by Judeo-Christian religion forces theology to reflect on the meaning of the dominion God entrusted to humanity in his design of creation. Genesis 1:8 unquestionably gives humanity some type of charge over the rest of creation. God said:

Be fruitful and increase in number, fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground (Gen. 1:28).

Two words, “subdue” and “dominion”, are certainly paramount in the text and must be, in some extent, considered in our discussion.

Subdue: The Hebrew word *kabash*, according to Anderson, is translated “subdue” (KJV), means to tread down or bring into bondage. Young (1994:161) adds that, the image often depicted of *kabash* is that of a conqueror putting his foot on the neck of a conquered enemy (cf. Josh. 10:24). Similarly, Dumbrell is quoted by Young (1994:161) suggesting that, “the word indicates the exertion of force against some resistant object which requires coercive effort to bring it under control.” Evidently, the word generally describes the image of a conqueror (Num. 32:22, 29; 2 Sam. 8:11; Josh. 18:1; 1Chro. 28:10). Therefore when *kabash* is used of the earth or nature, it denotes that humankind is to have control or power over nature.

Dominion: Human beings are to exercise dominion over the creation. God placed humans in the garden to take care of it (Gen. 2:15). He further charged humankind with the responsibility of exercising dominion. The Hebrew word for “rule or dominion” is *rada* which means to prevail over. This word also describes the idea of being victorious as noted by Anderson (2005:185).

Young (1994:137) posits that, God intended that humankind rule over creation as His vice-gerent and govern in love and justice just as he would. And as God’s image in creation, Asante (1994-95:8-17) concedes that, the human being is the steward of God’s creation (Ps. 115:16). Humankind as steward implies he has dominion over the “lower” orders of creation;

this is not to say that humanity has sovereign mandate over them. Really, only God is the Sovereign, hence the other life forms are to be used with this truth in mind.

Before the fall, all relations were in proper order. When Adam sinned and was given his autonomy, he abandoned his charge to care for the earth. It is believed that humanity will subsequently look upon nature from its perspective rather than God's; consequently, humankind's attitude towards nature will manifest a paradigm shift from theocentrism to anthropocentrism. Young (1994:137) asserts that, this primeval worldview shift twisted the dominion mandate from responsible stewardship to irresponsible exploitation, so that what was dominion now became domination. Schaeffer (1972:72) makes a parallel of man's dominion over woman at the fall. The fallen man exercises "dominion" in an unhealthy way – a kind of tyranny, he makes his wife a slave. In the New Testament though, man is taught to exercise dominion without tyranny. The man is to be the head of the home, but the man is also to love his wife as Christ loves the church (Eph. 5:25). The implication is the fact that the human being's dominion over nature must be exercised with the greatest care and respect. Therefore, man's dominion is under God's dominion and under God's domain.

The dominion and subdue affair in Genesis 1:28, unlike the keeping and caring business in Genesis 2:15, seem harsh. They indeed have negative tones and it is as though, God is ordering humanity to subjugate creation. Asante (1994-5:14) observes that, "having dominion over creation is not a license to over-exploit creation . . ." This, he says, is made clear by the following acts of God:

- The parallel creation story in Genesis 2, depicts that, humankind is mandated to eat freely of the fruits with the exception of one (Gen. 2:16-17);
- Humankind is given the charge of the land, that is, he is to "work it and take care of it" and not to exploit(Gen.2:15);

- Humanity is again given the duty to name all the animals.

According to Asante (1994-5:14), these tasks imply not only authority or mastery over nature, but also a respect for them as rational entities. He was however quick to add that, humans must relate with the created order through “responsible dominion which finds expression through tender care and respect for nature.”

Care: “The Lord God took the man and put him in the Garden of Eden to work it and take care of it” (Gen. 2:15). As noted by Young (1994:163), the word “shamar”, translated “keep or care,” often takes the meaning of “safekeeping what belongs to another.” So having dominion over the creation is not a license to rape the resource, it is a solemn responsibility to keep and care for the ecology.

Schaeffer (1972:69) draws out a parallel; he says that in the Parable of the Talents (Matt. 25:15ff.), the talents or money did not belong to the man with whom they were left. He was a servant and a steward, and he held them only in stewardship for the true owner. The parable basically teaches that humankind is accountable and responsible to God for the way they use the resources they are given. They are expected to “steward” or “manage” these for the One who owns and has given them for this purpose.

In summary, Judeo-Christian tradition may be accused of depleting nature yet, the above discussion seems to suggest otherwise. Genesis 1-2 seems to suggest that Creation was made *ex nihilo and not ex deo*; and that humanity who is the *imago dei* (Image of God) should be seen to depict “divine-like” qualities. Humanity should manage the affairs of creation in love and in care. Again, it must be noted that, God did not create something that was self-sustaining, but rather something that was dependent on him. That is to say, God did not create another God. Young (1994:136) points out that, creation is perfect in every regard except that

it is not self-sustaining. The implication is that, ecological harmony cannot exist unless there is an external (Godly) influence for its sustainability. Genesis 2:5 implies that nature was incomplete without a caretaker, and so God created Adam to share in the task of sustaining creation. Like Young (1994:69), many Christians believe that, Genesis 2:5 places humankind over nature, but not in the role of tyrant, rather to relate, manage, protect, and care for nature.

2.5 ISLAM AND ECOLOGY

It has been stated that, Islam and Christianity by 1950 had existed in Ghana and have continuously contributed socially and spiritually for at least one hundred years each. According to Ghana-Religious Freedom Report 2000, about 25 percent of Ghana's population are Muslim. Clearly, statistic quoted above is debateable. Three principal branches of Islam are represented in Akyem Abuakwa traditional area of Ghana: the orthodox Sunnis and Tijanis, and the less orthodox Ahmadis. Like many other religions, Islam has regularly made growth, rather than ecological concerns, their premier objective which they pursue rigorously. Few Muslims however, know that Quranic verses describing nature and natural phenomena outnumber verses dealing with commandments and sacraments. Rahim (1991:65) stated that, of more than 6,000 verses in the Holy Quran, some 750, one eighth of the Book, exhort believers to reflect on nature; to study the relationship between living organisms and their environment; to make the best use of reason and to maintain the balance and proportion God has built into His creation.

The earth's resources land, water, air, minerals, and forests are available for our use, but these gifts come from God with certain ethical restraints imposed on them. Humans may use them to meet their needs, but only in a way that does not upset ecological balance; and that does not compromise the ability of future generations to meet their needs. Rahim (1991:65) further

asserts that, Quran and the sayings of Prophet Muhammad form the legislative basis of Islamic law. Over the centuries, Muslim scholars have developed legislation regarding animal rights, bodies of water, forests, wildlife, land use, city growth, overgrazing and other aspects of earth's finite resources and their management. Islamic law, he admits, requires the establishment of areas within which development is prohibited to safeguard natural resources. These areas could border canals, wells and rivers, to protect aquifers and water from pollution. Most forests are designated as wilderness areas where trees cannot be logged. Responsible grazing is fundamental to Islamic environmental law. Pasture, woodland, wildlife and forests cannot be privately owned or monopolized. They are public property, to be managed by the state for the common good of all. This section therefore, seeks to present Islamic perspective on environment.

2.5.1 Human Mandate and Environment

In Islam, the conservation of the environment is based on the principle that all the individual components of the environment were created by God, and that all living things were created with different functions. According to Izzi Deen (1990:2), the functions are carefully measured and meticulously balanced by the Almighty Creator. Although the various components of the natural environment serve humanity as one of their functions, this does not imply that human use is the sole reason for their creation. Ironically, humanity as a part of creation is not outside of nature but within it. In the view of Ahmad (2007:n.p.), the Islamic worldview supposes that, humans are God's vice gerents on Earth. This means that, they do not have absolute autonomy but rather they have been entrusted the guardianship of the Earth.

In the view of Ozdemir, as he analysed the work of Said Nursi (2003:n.p.), all the beings in the universe are concerned with what men do and how they act. Expounding verse 8 of Sura

al-Mulk, he observed that, the universe and its elements become angry at the people of misguidance. This, he explained as, the Quran views all beings as having been charged with ‘elevated duties’ – both performing functions and glorifying their sustainer as Divine official. But their unbelief demoted them from their high position, so they are reduced to being that is, “lifeless, transitory, meaningless creatures.”

When expounding verse 29 of Sura al-Dukhan, which states that, the universe grows angry at the unbelievers and does not grieve at their deaths, Said Nursi emphasises this dimension of the relations between man and the universe: “When the people of misguidance die, the heavens and earth, which are connected with man, do not weep over them, that is, they are pleased at their deaths.” While with its implied meaning, it says: “The heavens and earth weep over the bodies over the people of guidance when they die; they do not want them to depart.” Nursi seems to suggest that, the entire universe is connected with itself and with those who have the attitude and faith to respect and love nature. Thus, in Nursi’s philosophy of the environment, all living things are meaningful and interrelated. Everything in creation is linked to everything else; whatever affects one thing ultimately affects everything. Human has been distilled from the essence of nature and so is inextricably bound to it. All beings in the universe, animate and inanimate, recognize God; so do they glorify Him.

2.5.2 Stewardship and human moral responsibility and environment

According to Zillur Rahim (1991:65), humanity’s ability to reason and think, has placed them in a position of trustee or steward of God on earth. Nature is therefore created on the principle of balance, and as a steward of God it is the human's responsibility to ensure that his or her actions do not disrupt this balance. He further asserts that, stewardship does not imply superiority over other living beings: because ownership belongs to God alone, stewardship invests humans with a moral responsibility in safeguarding God's creation. Humanity, he

asserts, is only one of God's creations, existing side by side with other living beings. His life depends on other lives and energies and processes in an interwoven system of which he is only a part. Human arrogance may lead him to believe that he represents the epitome of God's creation. Yet, the Quran reminds him that "Greater indeed than the creation of man is the creation of the heavens and the earth" (40:57). By stressing that man is only a small part of the universe, the Quran points out the absurdity of the anthropocentric worldview. Stewardship therefore requires that, humans learn to live in harmony with rather than work against nature. Consequently, Zillur Rahim (1991:65) has observed that, reflecting on nature and understanding its inner workings has been made the fundamental basis of knowledge in Islam.

2.5.3 Conservation of the Natural Environment

Allah, according to Razzaq Lubis (1998:n.p.), has guided humanity to the life transaction, which is nothing but the perfection of human behaviour or character. This behaviour, he said, is towards Allah, humans, and all of Allah's creatures. It is the pattern of living by example and discernment, and of living in a natural state in accordance to the laws that govern the universe, which Islam calls *fitra*. The following principles relate to conservation:

2.5.4 Tawheed

The first Islamic principle that relates to conservation is that of the Oneness of Allah, or *Tawheed*. This principle is absolutely fundamental to Islam. Every Muslim must believe in this Oneness of Allah. It is said that, that some two-thirds of Prophet Muhammad's early preaching – and indeed of the Quran itself – were and are dedicated purely to endorsing this very Oneness of Allah. One indivisible God means to a Muslim that, there is no separate deity for each of the many attributes of God. Muslims belong to the One Universal God who is also God of the Universe.

Palmer and Finlay (2003) observe that, *Tawheed* is the monotheistic principle of Islam and it begins by declaring that “there is no God but God.” This is the bedrock statement of the Oneness of the Creation from which stems everything else. *Tawheed*, they stated, is the fundamental statement of the oneness of the creator, from which everything else follows. It is the primordial testimony to the unity of all creation and to the interdependence of the natural order of which humanity is an intrinsic part. Allah says of Himself in the Quran: “Say; He is God, One God, the Everlasting Refuge.” And about creation: “To Him belongs whatever is in the heavens and the earth all obey His will and it is He who originates creation” (Quran 30:25). This verse implies that, the whole of creation, being the work of one originator, works within a defined pattern. Another verse in the Quran refers to the heavens and the Earth as extensions of God’s throne, thus conveying the idea that creation was designed to function as a whole. Each of its complementary parts, including humankind, plays its own self-preserving role, and in so doing supports the rest.

2.5.5 To Allah belongs the earth and the heavens

Another principle that underpins Islamic commitment to the conservation of nature and natural resources, according to Palmer and Finlay (2003:n.p.), is the principle of divine ownership of all that exists on earth and in the heavens – animate and inanimate. There are countless verses in the Holy Quran that state this. An example follows:

Allah! There is no Allah but He the living the Self subsisting Eternal. No slumber can seize him nor sleep. His are all things in the heavens and on earth. Who is there can intercede in His presence except as He permitteth? He knoweth what [appeareth to his creatures as] before or after or behind them. Nor shall they compass aught of his knowledge except as He willeth. His throne doth extend over the heavens and the earth and He feeleth no fatigue in guarding and preserving them. For He is the Most High the Supreme [in glory”] (002.255).

Thus Allah, the One Indivisible God, the Universal God and the Lord of the Universe is the Owner also of all that is in the universe, including man. The above set of principles — all taken from Islam’s ultimate authority, the Holy Quran – define the perspectives of the relationship of humanity to God and of God to the environment in its totality.

2.5.6 Man and the Khalifa

This is the second set of principles and it defines the human role and responsibilities in the natural order that Allah provided. The appointment of people as *Khalifa* or guardians is the sacred duty God has given to the human race. The appointment of humanity to this elevated position gives rise to the one occasion when the Angels actually questioned Allah’s decision as seen in the following verses:

Behold thy Lord said to the angels: “I will create a vice-regent on earth.” They said “Wilt thou place therein one who will make mischief therein and shed blood? Whilst we do celebrate Thy praises and glorify Thy holy [name]?” He said: “I know what ye know not.” And He taught Adam the nature of all things; then He placed them before the angels and said: “Tell Me the nature of these if ye are right.” They said: “Glory to Thee of knowledge we have none save that Thou hast taught us: in truth it is Thou who art perfect in knowledge and wisdom.” He said: “O Adam I tell them their natures.” When he had told them Allah said: “Did I not tell you that I know the secrets of heaven and earth and I know what ye reveal and what ye conceal?” (002.030-34).

Clearly Allah preferred un-programmed free will of humanity to the pre-programmed goodness of Angels! And again: “It is He who hath made you [His] agents inheritors of the earth: He hath raised you in ranks some above others: that he may try you in the gifts He hath given you: for thy Lord is quick in punishment: yet He is indeed Oft-Forgiving Most Merciful (006.165).

2.5.7 Use but do not abuse

The exercise of the vice regency is defined in the Quran by another set of principles in which human's privileges as well as his responsibilities are clearly defined. Several times in the Quran, human is invited to make use of the nourishing goods that Allah has placed on earth for him, but abuse – particularly through extravagance and excess – is strictly forbidden. Sometimes these principles are stated in one breath and the following verse is an example: *“O children of Adam! ... eat and drink: but waste not by excess for Allah loveth not the wasters (007.031).*

“It is He who produceth gardens with trellises and without and dates and tilth with produce of all kinds and olives and pomegranates similar [in kind] and different [in variety]: eat of their fruit in their season but render the dues that are proper on the day that the harvest is gathered. But waste not by excess: for Allah loveth not the wasters” (006.141).

There are as many invitations to partake of nature as provided for man and for other creatures of the earth as there are for the avoidance of wasteful extravagance. Time and again, God reminds us that He loveth not wasters. One agrees with Palmer and Finlay (2003) that, there are several Quranic principles that, taken separately, do not have an obvious connection with conservation. But taken in their totality, they state in clear terms that Allah, the One True God is the Universal God and the Creator of the Universe and indeed, the Owner of the Universe. Allah, in His Wisdom, appointed humans, the creatures that He has conferred with the faculty of reason and with freewill, to be His vice regents on earth. And while Allah has invited people to partake of the fruits of the earth for their rightful nourishment and enjoyment, He has also directed them not to waste that which Allah has provided for him – or He loveth not wasters. Muslims therefore have many scriptural imperatives that demand working for the preservation and health of the environment. As we enter an era where the

prospect of environmental catastrophe is perhaps greater than the prospect of disaster from any other source, Zaid Shakir (2009:n.p.) asserts that, it is especially important that we make environmental protection one of our most pressing priorities.

2.6 PANTHEISM AND THE ECOLOGY

Simply put, Pantheism is the belief that God is everything in the universe and that everything which exists constitutes God (Kauffman, 1981:344). According to Geisler (1999:580), Pantheism means *pan* (all) is *theism* (God). This is a worldview held by most Hindus, many Buddhists, and other New Age religions. In the traditional and religious practices of the people of Akyem abukwa, there are elements of Pantheism; although, they neither believe in nor practice absolute Pantheism. For instance, river Birim is perceived as *ɔbatan pa*, literally “responsible guardian” whose flourishing life and presence is a sure sign of victory and blessing for her children (the Akyems).

Pantheism implies that, God pervades all things, contains all things, includes all things, and is found within all things. Indeed, nothing exists apart from God, whether humans or the other life forms, all things are in some way identified with God. However, there are differing types of belief within pantheism. The one that is highly subscribed to is the belief of the ‘absolute’ pantheism. In the view of Geisler (1999:580), absolute pantheism distinctly teaches that there is only one being in the world, God, and that all else that appears to exist actually does not.

With regards to matters of the ecology and the nature of the universe, pantheists who grant any kind of reality to the universe agree that it was created *ex deo*, “out of God,” not *ex nihilo*, “out of nothing,” as theism maintains. From this premise, pantheists will romanticize nature and desire to project human feeling into nature.

According to Young (1994:77), a basic tenet of many ancient traditions is that nature is either divine and therefore of highest value, or he is the domicile of guardian spirits and deities and therefore to be respected and pacified. He further posited that, the words Nature and Mother Earth represent divinity and are spelled with capital letters. The pantheistic beliefs such as those in ancient pagan religions believe that, deities inhabit objects of nature, for example trees, rivers and animals.

The implication here is that pantheism, that is, the belief that everything is one, and a part of one essence with no basic distinction, is the only answer to our ecological problem. Pantheists believe that the ecological crisis persists partly because man's only concept of ethics has been 'man to man' with the exclusion of nature (Schaeffer, 1972:17). Pantheists therefore assert that, nature should not be ravaged; rather it must be revered by humanity; what was formally natural and fragmented is now sacred, virtuous and whole.

Equipped with such orientation, Pantheists have always sought to romanticize our relationship with nature. Romanticising, in Schaeffer's observation (1972:18-19), means that one looks at nature and projects into it man's reaction. Clearly this would mean that, one would look at a goat or tree and think of it as though it were reacting as a man reacts. Indeed, to project our feelings and thoughts into a goat or tree would further mean that we would have no base upon which to justify slaughtering a Goat for food or cutting down and using the tree as a shelter for man.

Surprisingly, the prevailing attitude of some societies influenced by pantheistic thought, like India, is that of social and cultural apathy. Such societies participate and believe that, nature is the way it is because of bad *karma*, therefore humanity must passively endure the pollution, draught, and the injustices as a way of paying off the *karmic* debt. However the only hope, they claimed, is to escape.

According to Reuther (1978:22), humankind must re-immense God and humanity in nature, so that we can once again interact with nature as our spiritual kin, rather than as an enemy to be conquered or an object to be dominated. She stressed that, it is only when we recover ancient animism's *I-Thou* relationship with nature, rather than the *I-It* relation of Christian religion, can we recover the root principle of harmony with nature that was destroyed by biblical religion and its secular stepchildren.

2.7 CONCLUSION

In this chapter, we have looked at how “religious ecology” gives insight into how people and cultures create both symbolic systems of Human-Earth relations and practical means of sustaining and implementing these relations. We have also established that religion connects humans with a divine or mystical presence, with the human community. The work has also examined Lynn White's view of the ecological crisis. He brilliantly traced the origin and consequences of the ecological crisis and alleged that, Judeo-Christian theology was fundamentally exploitative of the natural world. However, the Judeo-Christian view on nature that, God places humankind over nature, but not in the role of tyrant, rather to relate, manages, protect, and care for nature is also discussed. This was done through the various sub-topics like “out of nothing” (*ex nihilo*) or “out of God” (*ex deo*), “image of God”, “subdue”, “rule” and “care.” The chapter further discussed the Islamic and Pantheistic worldview, and the bearing it has on ecology was examined.

CHAPTER THREE

CULTURAL AND RELIGIOUS PRACTICES, THE ECOLOGY AND AKYEM ABUAKWA TRADITIONAL AREA

3.1 INTRODUCTION

This section will discuss the Akyem Abuakwa people, their traditional religion, cultural practices, and how they have related to the environment. Are the Akyems aware of their ecological status in terms of how well or unwell they have managed the land and its natural resources? By what methods have they preserved the environment, and are these methods being used today? Admittedly, the Akans in particular and Ghanaian tribes in general have, to some degree, a commonality in their religious and cultural practices. In other words, cultural or religious practices of Akyem Abuakwa may not be peculiar to them; it might be practiced by some other tribes elsewhere. We shall also trace and examine the environmental condition as it has developed through the historic periods.

3.2 HISTORICAL WORLDVIEW OF AKYEM ABUAKWA PEOPLE

Okyeman is a traditional area in the Eastern Region of Ghana. Historically, it has been attested that the Akyem were one of the first Akan tribes to migrate southwards after the fall of the ancient Songhai Empire. The Akyem states, commonly known as "Akyem Mansa", consists of three main independent states, all grouped in the Eastern Region, with common language, culture, customs and historical background. The states are: Akyem Abuakwa, Akyem Kotoku, and Akyem Bosome. The Akyem, according to history were a part of the then all powerful Adansi kingdom, the first nation to build mud houses in their kingdom at that time; hence the name "Adansi" (Builders). The Asante Kingdom emerged and under the

leadership of Nana Osei Tutu, they fought and defeated the Adansis about the 14th Century and absorbed the Adansi kingdom into the growing Asante Kingdom. The Akyem nations which were then part of the Adansi kingdom, broke away and crossed the River Pra to settle on its banks to avoid becoming subjects of the Asante. Nana Osei Tutu decided to pursue them across the River Pra to teach them a lesson. That was a great miscalculation! While crossing the river with his army, he was shot by the Akyem who were lying in ambush on the other side of the river. He fell dead into the river. This was on a Thursday; hence, the great oath of the Asante, *Meka Yawada* (I swear by Thursday). For this, the Akyem who carried out this defeat became known as "Abuakwanfo" or "Abuakwafo", (Guerrilla Fighters) (<http://en.Wikipedia.org/wiki/Akyem>).

The traditional area of the Akyem is sometimes known as Kwaebibirim because of its abundance in rich natural resources. This area is in the tropical rain forest with fertile river valleys, deep loamy soil, and fresh fauna. The land is watered by the famous river Birim. The river Birim is the source of Ghana's diamond. The spiritual, physical and philosophical sustenance of the Akyem people are derived from river Birim. The Akyems do not worship the river *per se*, they revere it as their source of inspiration, giving them life and strength hence the appellation, "*Akyemkwa a nom Birim*" (A native of Akyem undoubtedly drinks from the Birim). The Akyem Abuakwa celebrates the Ohum festival, an opportunity to thank the creator for blessing their land with such a magnificent river (Birim).

Generally, there are about 48 Forest Reserves in the Eastern Region, including the Atiwa range forest, Ajenua Bepo, Alema, Apapamu, Abomosu, Sekyase, Kwei Asunafo, and Karu. Many of these forest reserves are found in the Akyem Abuakwa Traditional Area. The Akyems are predominantly farmers. According to Emmanuel Baah, the Assistant State Secretary in charge of lands of the Akyem Abuakwa Traditional Council, Akyem Abuakwa stretches from the Basin of Densu River at Adoagyire and ends at New Jejiti. The Eastern

side shares boundary with the Kwahu's, Krobo's, Akuapim's, and New Juabeng. The Western boundary goes as far as Awutu and Assen beyond the Pra River. Akyem Abuakwa has a population of about two million and five hundred people and has 840 towns and villages.

3.3 THE ENVIRONMENT AND THE PEOPLE

The traditional people of Akyem Abuakwa perceive creation as sacred and this notion has sharpened their thought; guided the formulation of their worldview on cosmology; and their attitude towards the use of the environment. Gyae Korang Adu-Twum ex-chief of Kade is of the view that, human is not only accountable to *nananom nsamanfo* (ancestors) but also to the *ɔboade ε Nyame* (creator God) for the prudent or reckless use of nature. Adu-Twum concedes that, *Nananom* (traditional leaders) religiously understand their divinely role of regulating the use of nature for the benefit of the dead, the living and the posterity.

In the Akyem cosmology, the resting place for the dead in general, and the traditional leaders or chiefs in particular (Mausoleum) is as important as any other traditional practice. Often land demarcated for this purpose is shrouded in frightening stories that ward perpetrators away from encroachment. For this reason, land and natural resources are regarded as the property of ancestors who will demand accounts of stewardship from the traditional leaders. Traditional leaders or family heads are therefore to be seen as mere care takers who hold these natural resources in trust for their people. This explains why land is rather leased out for developmental purposes instead of being sold outright in Akyem Abuakwa. The Akyems' have a relationship that is so warm with the environment and this has shaped their perception of their environment. The people are predominantly farmers who pride themselves of rain

forests and magnificent rivers and have in the past done well to promote sustainable exploitation of renewable natural resources.

According to a team of local and international scientists, Atiwa harbours one of the healthiest and most important ecological systems in the world, with the headwaters of four important rivers in the country; Densu, Birim, Supon, and Ayensu, which are essential sources of domestic, agricultural and industrial water supply for local communities and even Accra (Kwaku Yeboah, 26th February 2012). It is in this regard that, the Atiwa forest reserve was constituted in 1925 under the Native Authority bylaws of Akyem Abuakwa State and gave forestry officials credible information and support to facilitate the arrest of perpetrators, wherever they are found (Kudom-Agyemang, march 2012). It follows that, the Okyeman Council under the leadership of Osagyefuo Amoatia Ofori Panin has opted for a national park than a bauxite mining when confronted with these two options with regards to the Atiwa forest range reserve. Although Gecaga (2003:30) concedes that, often the underlying rationale of development is that nature is a “thing” to be used up, controlled and dominated. This way of thinking, to the people of Akyem, has proven to be faulty and myopic since it is motivated by forces of greed, selfishness, and profiteering.

3.4 HISTORICAL OVERVIEW OF THE ECOLOGY

According to Opoku Agyemang *et al* (2008:141), the industrial revolution in the West may be regarded as the greatest enemy Nature has ever had to face. It is said that, factories that sprang up, in the said era, needed raw materials and energy to operate. Unfortunately, industrialised Europe was not well endowed with the required resources hence, the colonization of the so called primitive people who did not appear to have any use for gold, bauxite, and timber, to mention these few. Agyemang *et al* (2008:142) observes that, it was

through the exploitation of these resources that Europe defiled Africa and left behind an ugly history of soil degradation, water and atmospheric pollution. Oduyoye (2001:19) cites how Belgium's hunger for latex for instance, urged them to use the Congolese to degrade their own thick forests and ecology and left the latter in a deplorable state. In Ghana, many people continue to abuse the environment with impunity, and matters of environment seem to be no one's business.

3.5 THE ROLE OF TRADITIONAL RELIGION AND WORLDVIEW FORMULATION

Akyem Abuakwa ecological cosmologies like those found in the indigenous people of many tribes elsewhere do not always put a stop to environmental degradation as they continue to carry out slash-and-burn agriculture. That notwithstanding, Tucker and Grim (2000) argued that, most indigenous peoples have environmental ethics embedded in their worldview. For instance, they have respect for the sources of food, clothing, and shelter that nature provides. The traditional people of Akyem Abuakwa conceive nature as divinely given gift that are held in trust for posterity and therefore should be prudently managed.

Pobee (1979:28) provides us with a vivid description of the Ghanaian religious worldview. He intimates that, "A traditional Ghanaian, be the Akan, Ewe, Ga, or whatever, believes he is surrounded by numerous hosts of spirit-beings . . . , who are able to influence the course of a man's life for good or bad or ill." It is therefore important to note that, the belief in the metaphysical cuts across the length and breadth of the Ghanaian religious landscape. For instance, the Akyem cosmology has it that, ancestors and hosts of spirit-beings have been actively involved in either, sustaining the people or providing resources by way of daily nourishment and security. This perhaps, explains why Mmirikkissi Okasum Apori Atta chief of Hemang, will not ravage sacred groves that host the *Mpanin dae or eban mu* (Royal

Mausoleum) and *Konabamoa* the *nsu bosom* (river deity) of Heman. He believes that, any interference of these could arouse *nananom nsamanfo abufuo* (anger of their ancestors and other spirit-beings). According to the Ghanaian worldview, *obi nkyerε abofra Nyame*, literally, “no one points God to a child”. Every Ghanaian child knows of the existence of God right from birth.

By worldview we mean an overall conceptual framework or as James Sire (1988:17) puts it: “a set of presuppositions (assumptions which may be true, partially true or entirely false) which we hold (consciously or subconsciously, consistently or inconsistently) about the basic make-up of our world.” Mbiti (1975:31) explains that the African, and for that purpose, Ghanaians did not form their opinions about themselves and the universe out of nothing. According to him, an African:

Observed the world around them and reflected upon it, they looked at the sky above with its stars, moon, sun and meteorites; with its clouds, rain, rainbows and the movement of the winds. Below they saw the earth with its myriad of life forms, animals, insects, and plants, and its rivers and lakes, rocks and mountains. . . . These experiences stimulated them to reflect upon their life and the universe in which they lived. The result was a gradual building up of the African views or ideas about the world and the universe at large.

It should be acknowledged that, Mbiti’s observation is not exclusive to the African; some tribal Indians and others have equally formulated their worldview upon reflecting on nature. The African worldview therefore has to do with the way Africans understand themselves and the world around them. According to Sowu (1997:26), these views find expression in myths, legends, proverbs, rituals, beliefs, wise sayings and everyday speech. He further declares that, most African scholars share the view that, the life of the African is fused with religion from the cradle to the grave. Virtually every area of the African’s life involves some element of religion - God is often perceived in creation.

It is realised that, customs and traditions, festivals, the concept of land, methods of farming, and taboos are closely linked with religious beliefs and practices of the Ghanaian. Akyem Abuakwa like many tribes in Ghana perceive creation as sacred and this notion has in the past often helped to ensure respect for the world of nature and to promote sustainable exploitation of renewable natural resources.

3.6 THE SUPREME BEING AND NATURE

In daily speech and act, the Akyems display deep reverence for the Supreme Being. They are also conscious of the existence of other divinities or lesser gods, beside *Onyankopon* (God). Whereas gods are treated with respect upon performance and with contempt if they fail; it is the Supreme Being and the ancestors that are always treated with reverence and awe. The Akyem, like the other tribes, esteem the Supreme Being and the ancestors far above gods (Dickson, 1968).

These are represented by natural objects like trees -*Nyamedua*, literally, “sacred groves”, rocks, rivers, and many more which participates in the religious schemes that sustain the ecology. Writing about the traditional methods of conservation, Garbrah (2000:69) quotes from Tufour the following:

The sacred groves include patches of forest land on water catchment areas in hilly slopes, river beds and river edges. With increasing modernisation and urbanisation, the sacred groves which have been jealously safeguarded through the religious and cultural systems are in serious threat by farming, encroachment and timbering activities; the immediate ecological consequences of the encroachment have been the drying up of water bodies, that is, streams, rivers and pools on which big towns and villages have depended for their survival.

Whereas in some places, modernisation and urbanisation have been blamed for contributing to the considerable destruction of sacred groves, the case of Akyem Abuakwa has been

different. Mining and timber logging activities, encroachment of forest reserves for peasant farming and other activities have been blamed for the destruction of sacred groves.

3.7 MOTHER EARTH (ASAASE YAA)

Asaase Yaa (Mother Earth) is one of those lesser gods. She is ranked next to the Supreme Being and Thursday is considered to be her sacred day among the Akyem Abuakwa. Consequently, no farming, mining or digging of the soil is permitted on Thursday, for it is regarded as sacrosanct to the earth goddess. However, in many communities in Akyem Abuakwa today, mining activities are carried out on the land on Thursday and efforts by traditional leaders to call for observance have failed.

Agyemang *et al* (2008:143) say the ancients wove an interesting story such as: if you go to the bush on that particular day you are sure to encounter *Asaase Yaa* (Mother Earth) disguised in the form of a weird old woman or an *Aboatia* (dwarf). *Asaase Yaa* is the indispensable supporter of the living as well as the dead of whom she is the safe custodian. Agyemang *et al* (2008:142) believes that, humans, plants and water bodies are all her children and that, they depend on her for sustenance. Haring (1981:169) adds that, the support system of life, including human life, was and is the earth. He further advises that, “Nature, which is the support system of all life, must be respected; it cannot be ruthlessly exploited without sinning against the essential cosmic dimension of creation and redemption.” In situations where nature has been disrespected and ravaged, humans have been made to pay the price. The recent perennial flooding in Akyem Abuakwa traditional area has been linked with the ruthless use of the environment.

According to Amponsah (1974:30), *Asaase Yaa* is also believed to abhor such acts as the “wanton spilling of blood on her, burying of a pregnant woman without extracting the unborn

babe from womb and above all sexual relations in the bush.” These were to ensure that people obeyed rules and that nature was protected and cared for, given the fact that this society had no law enforcement agents.

3.8 CUSTOMS AND TABOOS

A traditional Ghanaian custom, such as *Ohum* of the Akyems, is celebrated to honour the creator for the blessings of fertile land and River Birim bestow on them. *Ohum* is the corrupted form of *ohome* (rest); residents (animate and inanimate) are to rest and not to engage themselves in any form of tedious work. During the festival the ancestors who struggled and persevered to keep the society intact are remembered. Descendants also pledge to continue the tradition, to keep Okyeman strong and free with peace and prosperity. They then pledge allegiance to their King (Okyenhene) and their sub-chiefs and elders for their leadership and guidance. During the festival, particularly the Ohum Tuesday, tilling of land, drumming, and noise making including the pounding of fufu till dusk is forbidden.

For instance, *da bone*, literally “bad day” is a day set apart in Akyem Abuakwa for the pacification and veneration of their deities especially, Birim *Abena* (Tuesday) the goddess of river Birim. In such days, residents are forbidden to fetch water from the river, to attend to their farms, and there should be quietness in the land. The above customs and taboos are the reflection of religious and cultural instincts of the Akyems and how far they have being in preserving the environment.

Again, some taboos require that farms are not cultivated at a point close to water heads or source of streams or rivers. Agyemang et al (2008:147) observe that, this is culturally

explained as a taboo against the river god. However it has been realised that, it is indeed a measure to protect the river from exposure to the sun and eventual drying up. Regrettably, mining activities have caused so much damage to the Birim River in Akyem Abuakwa. In communities like Kusi, the river has been given a newly artificial course for the miners to extract gold or diamond from the original basin. In such situations, flora and fauna, tributaries and stream sources are destroyed. More so, the river which serves as the main source of potable water supply for the people of Akyem Abuakwa is polluted by miners. It is believed that, the rampant destruction of flora around river heads today is one of the main causes of environmental degradation and ecological disorder. Similarly, Garbrah (2000:63-73) points out that, in the parts of rivers considered sacred, fish grow to enormous sizes; and the sacred areas also serve as breeding grounds for fish found elsewhere in the river.

Garbrah (2000:71) conjectures that, there are various taboos and sayings which also demonstrate our ecological consciousness, and as usual, in order to encourage observance, some reason other than ecological, is given for them. There is for example the saying “one does not urinate in a place where most people pass.” The reason given is that anyone who does so will have pain in the urinary tract. Again, for the conservation of wild animals it is tabooed to kill an animal without good reason. The reason given for this taboo is that the animal’s ghost will follow the culprit. It was also considered a bad omen to destroy a pregnant animal. In Akyem Abuakwa, it is a taboo to kill *Asona Wɔ* (red snake) and *Kwaakwaadabi* (Crow). These are totems for the Asona clan that occupies the Abuakwa stool. By these customs and taboos, both human and nature have been inextricably linked together; a unity that conserves and rejuvenates nature.

3.9 LAND MANAGEMENT

Garbrah (2000:68) has stated that, the Akans in particular treat the world of nature with respect. Land, he says, is sacred and a gift from ancestors to be preserved and issued on a sustainable basis for the good of the community – past, present and future. Agyemang (2008:143) adds that, the chief or family head holds it in trust, that is, on behalf of the extended family. Any abuse of land is likely to be met with punishment in the form of diseases like blindness, impotence or death. Land, he says, is inalienable and should not be sold to foreigners. It is believed that, once a land is sold out or given as concession, these mining operators or timber contractors take absolute authority over all the trees, rivers and consequently, nature suffers. All these activities carried out in the name of development amount to desecration of *Asaase Yaa* (Mother Earth) who does not hesitate to punish in the form of drought, famine, and diseases.

According to Garbrah (2000:68), shifting cultivation was another agricultural land management practice which was introduced to ensure sustainability. Certain plants were used as indicators of soil quality and that determines whether the land must be left fallow or otherwise. It is very likely that shifting cultivation and the Sabbaths for land were introduced as conservation practices and given religious significance to compel observance. Notably, the natives of Akyem Abuakwa pride themselves of coming from the virgin forest. The Kings of Abuakwa equally pride themselves as the Kings from the virgin forest with the appellation such as – *Kwaebibirim brempon* (king of forest). This undoubtedly demonstrates the kind of respect they give to the environment.

One agrees with Garbrah (2000:73) when he argues that, our religious and traditional practices have better chances of ensuring the conservation of our ecology than the introduction of imported schemes. The fact that one does not believe in, for example, the

religious reasons given for the establishment of sacred groves does not mean one has the permit to destroy these vital gene banks. Therefore people of different faiths other than the traditional should not condemn the traditional practices as merely pagan. Rather, people should unearth the rationale for these practices, analyse and place them in ecological perspective to ascertain the inherent wisdom.

3.10 CONCLUSION

The chapter presented a brief historical overview of the people of Akyem Abuakwa. It was discovered that, the Akyems conceive of nature as divinely given gift that are held in trust for the dead, the living, and the posterity and therefore require prudent management. The chapter further discussed the role played by the traditional religious beliefs and practices in the sustaining of our ecology. Recognition was also given to the fact that, most indigenous people have environmental ethics embedded in their worldview. This was made apparent through the enactment and enforcement of customs and taboos in the Akyem Abuakwa traditional area. We also discussed that, the Akyems have deep reverence for the Supreme Being. Yet, they are also conscious of the existence of other divinities or lesser gods, beside *Onyankopon* (God). *Asaase Yaa* (Mother Earth) is one of those lesser gods. She is ranked next to the Supreme Being and Thursday is considered to be her sacred day among the Akyem Abuakwa. Consequently, no farming, mining or digging of the soil was permitted on Thursday, this was another scheme enforced to ensure that nature was preserved. In addition, the chapter observed that, Land among the Akyems was sacred and a gift from ancestors to be preserved and issued on a sustainable basis for the good of the community.

CHAPTER FOUR

SUSTAINABLE DEVELOPMENT: RELIGION AND CONCEPTS

4.1 INTRODUCTION

The idea of sustainable development grew from numerous environmental movements in earlier decades. Summits such as the Earth Summit in Rio, Brazil, 1992, were major international meetings to bring sustainable development to the mainstream. This chapter therefore deliberates on some various developmental concepts, policies and religious beliefs as they relate to sustainable ecology. Today however, a number of developmental concepts and trends have been proposed and practised by investors, policy makers and corporate bodies. In the face of these trends, how can we foster sustainable development? And how can religion and interfaith cooperation mitigate the growing ecological concerns by reorienting humans to show more respect, restraint, and responsibility towards the earth community?

4.2 WHAT IS SUSTAINABLE DEVELOPMENT?

In the past, sustainability of creation was taken for granted and did not appear as an explicit goal. It certainly was not a big issue to developers who probably thought the rate of depletion was in tandem with rejuvenation of the ecosystem. For instance, in Akyem Abuakwa traditional area, timber merchants logged virtually every commercially viable tree that stood in their path with impunity, it is like nature is unlimited and thus available always for grabbing. But the situation is serious enough to warrant a special effort of re-afforestation campaign by the communities.

Consequently, nature continues to suffer because of the misconception that nature is inexhaustible, an erroneous worldview that has today inspired the debate on sustainable use

of natural resources among the earth communities. There is therefore no doubt that, the principle of survival of the fittest with its effectiveness and dynamics, but also its cruelty and hardship, would not be accepted as a principle for sustainable development by the majority of humankind (Bossel, 1999:2).

Sustainable development appears to have different facets; the concept means many different things to different people. It is therefore not surprising when William and Millington (2004:99) assert that, “sustainable development is a notoriously difficult, slippery and elusive concept to pin down.” According to the World Commission on Environment and Development (WCED), sustainable development is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Park, 2008:440). Simply put, sustainability is the effort to live in such a way that Earth will be passed on to the next generations in ways that will enable stable and positive life-patterns to endure. Sustainable living has often been compared to a three-legged stool. We would add a fourth leg in order to give the stool even more stability.

However, answers to the following questions give emphasis to any undertaking of development: What can we do and how can we do it so as to promote 1) ecological sustainability (Is it earth-friendly?); 2) economic sustainability (Does it support a just and equitable sharing of life’s resources?); 3) social sustainability (Does it create and strengthen community?); and 4) cultural sustainability (Does it deepen our faith relationships and commitments to ourselves and the Earth?). These considerations will not only promote sustainability; they will also enable all efforts to have the greatest impact.

In spite of the above, a more diversified view has been articulated, through various international forums such as the United Nations Permanent Forum on Indigenous Issues and the Convention on Biological Diversity, that there are four pillars of sustainable development, the fourth being cultural. The argument states further that, cultural diversity is as necessary for humankind as biodiversity is for nature. For the Ghanaian traditional people, Awua-Antwi (2009:28) argues that, sustainable development is not limited to the physical environment but also to the human development and social harmony. For it is human beings, he observed, who are the beneficiaries of sustainable development and thus sustainable development will be meaningless if the beneficiaries are at each other's throats. For instance, in Ghana where the practice of culture embodies morality and spirituality of the people, sustainability can best be achieved when cultural norms and practices are upheld. Therefore, sustainable development should be understood not simply in terms of economic growth, but also as a means to achieve a more satisfactory intellectual, emotional, moral and spiritual existence (WCED, 1987).

4.3 RELATED CONCEPTS OF SUSTAINABLE DEVELOPMENT

To sustain means: "to maintain; keep in existence; keep going; and prolong" (Webster, 1962). However, Bossel (1999:2) has suggested that, if the word is applied only in this sense, sustainability will not make much sense for human society. He further stresses that, human society cannot be maintained in the same state, whatever it should be. The view of Bossel as expressed above seems harmonious with the practices of the traditional Ghanaian who believe that, "*Adi di daa ye kyen adi di preko*" which literally means: "It is not good to eat all that you have in one day". According to Awuah-Antwi (2009:28), this proverb sums up the traditional Ghanaians understanding of the concept that, nature could be utilised but only on a sustainable basis.

Indeed, human society is a complex adaptive system embedded in another complex adaptive system which is the natural environment upon which it depends for support. These systems co-evolve in mutual interaction, and they each consist of a myriad of subsystems that co-evolve in mutual interaction. Bossel (1999:2) believes that, the interaction of the two adaptive systems create permanent change and evolution. This change and evolution, he argued, must be maintained if the systems are to remain viable (able to cope with their changing system environment) and sustainable. Resilience and Adaptive management are some related concepts of sustainable development.

4.3.1 The Concept of Resilience

There is a new concept that infiltrates the environmental discourse and it has the potential to change the outlook of environmental issues. The concept of resilience emerged from within the ecological sciences as a way of looking at why some systems collapse when they encounter shock, and some do not. Succinctly put by Marten (2001), resilience is the ability of social systems and ecosystems to continue functioning despite severe and unexpected stresses. By this, the ecosystem is able to resist damage and recover quickly. Such disturbances may include events such as fire outbreaks, flooding, windstorms, insect population explosions, exploitation of natural resources, and human activities such as deforestation.

In Ryan's (2011) view, the term 'resilience' is appearing more frequently in discussions about environmental concerns, and it has a strong claim to actually being a more successful concept than that of sustainability. Today, however, in Akyem Abuakwa many ecological systems such as rivers, forests, arable land and the entire biodiversity have been exposed to external shocks and are therefore vulnerable. The Birim river in the traditional area has

through mining activities been polluted; the arable land has also been ravaged and might take conservatively 25 years to regenerate; series of research in the Atiwa forest have confirmed that Atiwa harbours one of the healthiest and most important ecological systems in the world, with the headwaters of three important rivers in the country; Densu, Birim and Ayensu (Yeboah, 2012); the forest also supports a number of plant species not found anywhere else in Ghana (Anima-Addo, 2012:64). In spite of this repute, perpetrators keep threatening the forest through their illegal logging and mining activities.

The bodies of biosphere just mentioned appear to have different levels of resilience. Whereas some may revive in some foreseeable future time, others may not return quickly to normality after being provoked and changed by severe stress. Consequently, a reasonable interdisciplinary discourse on resilience which is a consideration of the interactions of humans and ecosystems via socio-ecological systems is paramount. According to Walker *et al* (2004:5), there is the need for a shift from the maximum sustainable yield paradigm to environmental management which aims to build ecological resilience through resilience analysis, adaptive resource management, and adaptive governance.

4.3.2 The Concept of Adaptive Management

In response to the many challenges that confront our ecosystem today, many research efforts are concentrating on creating new approaches which inspire the interplay of science, management and policy, and the ecosystem. One promising initiative is in the area of adaptive management, or adaptive environmental assessment and management, which according to Allen (2001), is emerging through the integration of ecological and participatory research approaches. It has been referred to as a structured process of "learning by doing" that

involves much more than simply better ecological monitoring and response to unexpected management impacts (Allen, 2001).

In Marten's (2001) view, adaptive development is the institutional capacity to cope with change. It can make a major contribution to ecologically sustainable development by changing some parts of the social system so that social system and ecosystem function together in a healthier manner. Conceptually, adaptive management is simply learning from past management actions to improve future planning and management. However, the concept does not simply react to problems; it anticipates problems or detects them in early stages, taking measures to deal with them before they become serious. Marten states further that, adaptive management provides a way to work towards sustainable development while simultaneously strengthening the capacity to cope with serious problems that will inevitably arise if sustainable development is not achieved. He further emphasised that:

Adaptive development for a sustainable society is caring about others - caring about community, caring about future generations and caring about the non-human inhabitants of the Earth. It requires real democracy and social justice because decisions and actions that value the future require full community participation. When a small number of rich or politically powerful people control the use of natural resources or other ecosystem services, they often do it for their own short-term economic gain. Societies are limited in their ability to respond adaptively if a few privileged people have the power to obstruct change whenever change threatens their privilege.

By the assertion, community participation and local folk engagement are required for the policy write up; alternatively, indigenes should be allowed to institute a "policy framework" that is contextualised. Looking into the Ghanaian cultural dynamics which contribute to a community value system, there seem to have existed practices parallel to adaptive management practices, which emphasis is on feedback learning or learning by doing. Berkes (2000) shares this observation and asserts that, the indigenous knowledge and the historical decisions of these societies are deeply rooted in ecological practices. To achieve this goal

therefore requires that, adaptive management focuses on among others, knowledge on indigenous ideas of development, locally-based interventions, and establishing policy dialogues between local and national stakeholders on the issues of sustainable nature management and adaptation.

To this end, traditional leaders, farmers, land owners and local folk should be engaged in a round table discussion – away from the known social system in Ghana - to help determine how the people themselves wish to apply their natural resources. In a situation where the Central government has often given authorisation to miners or investors, who neither have knowledge about the people and their culture nor are residents of the community, to explore and ravage their land and natural resources, adaptive management of the environment is impossible. The reality is that, the local communities are often unable to abrogate whatever prospective and mining contracts the Central government had entered into with these companies. As such, these communities are therefore forced to participate in the unsustainable practices that viciously affect their lives.

The lack of adaptive management practices in the country has somehow warranted recurring experience of environmental degradation especially in the areas of logging and mining. Religious bodies, social groups, and opinion leaders of various communities in the country should appeal to the Central government to rescind decisions that give permits to mining prospective in places like the Atiwa range of forest reserves. If steps are however not taken, Atiwa range, for instance, will suffer similar devastation and degradation of environment as has occurred at Ayamfre, Dunkwa, Tarkwa, Obuasi and many other places.

Nevertheless, despite the logic and appeal of adaptive management as an approach to help decision making in complex, regional or large-scale ecosystem contexts, Walters (2001) is quoted by Allen (2001) as saying that, the success of adaptive management in practice has been rather less than spectacular. He further observed that, the long-term effectiveness of

such approaches is limited by a number of barriers, most of which he said, can be classed as social and institutional rather than technical.

4.4 SUSTAINABLE DEVELOPMENT AND THE BIBLE

Is it not enough for you to feed on the good pasture, but you must tread down with your feet the rest of your pasture? When you drink of clear water, must you foul the rest with your feet? (Ezekiel 34:18)

Thus says the Lord, “Stand at the crossroads, and look, and ask for the ancient paths, where the good way lies; and walk in it, and find rest for your soul.” (Jeremiah 6:16)

From the above passage, bad stewards are not only selfish but destructive. A steward who muddies the water for others by causing unnecessary fear, danger and harm is showing signs of contempt for creation and the creator. In other words, what the steward should have done, but did not do, was to have exhibited good sustainable practices which offer the next generations the opportunity of stable and positive life-patterns.

Some years ago, we were taught not to worry about tomorrow, because tomorrow will take care of itself, and to learn from the birds of the air, who have no storage yet they survive (Matthew 6:34). We thus learned to put our trust in God who provides for us, but we failed to recognize that we have an important part to play in caring for his creation. Our preachers tended to only espouse the literal meaning of this scripture, and by implication, suggested that those who talk about sustainability were unnecessarily worrying about tomorrow (Yakubu, 2011:49).

Another Bible passage that teaches about sustainable development is this:

God blessed them and said to them, “Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground.” Then God said, “I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food. And to all the beasts of the earth and all the birds in the sky and all the creatures that move along the ground— everything that has the

breath of life in it—I give every green plant for food.” And it was so (Genesis 1:28-30)

Our earlier understanding of the text did not allude to the relevance of sustainability. We saw those who talked about sustainability as restricting us from exercising our God-given rights of subduing and dominating the earth. According to Yakubu (2011:49), we were completely oblivious of the responsibility that went with such rights, in the context of a complex system of interdependence and interconnection called, the ecosystem. Okyere (2011:88) admits that, the narrative brings to light the inter-connection between all creations and at the same time the inherent distinctiveness. In line with this, Barry Commoner (1994:52-3) has outlined four basic laws of ecology: First, everything is connected to everything else; second, everything must go somewhere; third, nature knows best; fourth, there is no such thing as a free lunch. For the sake of sustainability, and in the context of a complex ecosystem, anything extracted from it by human effort must be replaced. Young posits that, payment of this price cannot be avoided; it can only be delayed. In view of this, it is worth noting that, humanity’s God-given right over the other created forms should be executed with an attitude of stewardship.

4.5 SUSTAINABLE DEVELOPMENT AND THE QURAN

A huge number of verses in the Quran and several sayings of the Prophet Muhammad indicate the great importance that has been given to environmental concerns and the responsibility of human to the environment. Many of the Quranic verses cited by Muslims bear a striking resemblance to passages in the Bible, and portray a similar view of creation and the principle of sustainability. For example, "Praise be to Allah who created the heavens and the earth and made light and darkness" (Q.6:1). According to Marjorie and Young (2011:1), the Quran' and the *Hadith* are rich in proverbs and precepts that speak of the Almighty's design for creation and humanity's responsibility for preserving it. For many

Muslims, citing these is enough to prove that Islam has always embraced a complete environmental ethic. Abumoghli (n.y:1-9), in his presentation, outlines a number of Quranic passages that point to the fact that, Islam believes in Sustainable development and sustainable use of biodiversity. About environmental protection, it is observed in Islam that, the rights to benefit from nature are linked to accountability and maintenance or conservation of the resource. Abumoghli (n.y.:1-9) admits that, the fundamental legal principle established by the Prophet Muhammad is that "The benefit of a thing is in return for the liability attached to it". Parallel to this principle is the fourth of Barry Commoner's (1994:52-3) four basic laws of ecology. It states that, "there is no such thing as a free lunch." This is to say, anything extracted from the ecosystem by human effort must be replaced. Since the ecosystem is a closed system, no one can avoid the liability attach to eco-benefits; it can only be delayed. This indeed suggests that, humanity should care for nature and utilise it in a sustainable manner.

Abumoghli stressed that, much environmental degradation is due to people's ignorance of what their Creator requires of them. People should be made to realize that the conservation of the environment is a religious duty demanded by God, as God has said: "And do good as Allâh has been good to you. And do not seek to cause corruption in the earth. Allâh does not love the corrupters" (Al Qasas 28:77). Again, Islam calls for the efficient use of natural resources and waste minimization. God says in Quran: "Eat and drink, but waste not by excess; "He" loves not the excessive", (Al-A'raf 7:31). "And do not follow the bidding of the excessive, who cause corruption in the earth and do not work good", (Ash-Shu'ara 26: 151-152).

4.6 SEARCHING FOR CAUSES

The attempts to identifying the various factors that contribute to the unsustainable use of natural resources have been difficult; the reason is that, these factors seem inexhaustible. It needs not stressing that, the challenges our ecosystem is enduring are obviously the consequences of human activities. However, it does not appear possible that our environment can pollute and degrade itself. So what have contributed to the environmental crisis? A consensus on causes is a crucial first step towards ending environmental degradation. The following shall highlight some theories that are considered as underlying our ecological dilemma.

4.6.1 Population and Affluence Theory

Observers claim that environmental abuse, depletion of resources, pollution, and loss of biodiversity and deforestation of the tropical forest; have been significantly caused by the growth in population and their consumption pattern. According to Barbour (2000:392), population growth is outpacing growth in agricultural production and is putting pressure on water, and erodible soil among others. However, if the current rate of growth continues in the next 600 years, Beisner's (1990) has suggested that, every inhabitant of the world would be left with only one square yard of land to live on. And by the year 3500, the weight of human bodies on the earth's surface would equal the weight of the world itself. Neubeck *et al* (1997:151) have further observed that, the more people there are, the greater the impact they make on the ecosystem as a whole. Invariably, growth in population means increasing demands on the world's finite resources. Therefore those who say that population control is not urgent, because the earth can produce enough food and energy and all else needed for a

growing population, should radically examine their presuppositions and life style (Haring, 1981:202).

The challenge is critical and multifaceted because the traditional population regulation is somehow related to many variables which include cultural matrices, religious inclination, and economic policies of people and societies. In many African societies like the Akyem Abuakwa traditional area for instance, where the traditional marriage structure permits polygamy, human population is likely to grow steadily overtime. The solution to the problem of environmental degradation, in this context, is to decrease the world's population.

Issuing out of the fact of biblical command in Gen. 1:28: "And God blessed them, and God said unto them, be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that move upon the earth." Questions many have asked are, what exactly is the biblical basis for restricting the number of children one may choose to have? Furthermore, how is one to reconcile the biblical blessing of children as stated above, which may imply "many" to the global agenda to control human population? Again, what if people multiply in a way that limits the capacity of other creatures to multiply and thrive on earth? Would we be acting against God's blessings (Gen. 1:20-22) for the rest of creation? In one's view, the reference to the creation account in Genesis, an increase in population should normally be thought of as a blessing rather than a curse.

The above notwithstanding, it has been observed that, the major perpetrators of environmental deterioration are not the poor societies like Ghana. Rather, Neubeck *et al* (1997:151) believe that, the economically developed nations, who are not experiencing severe population explosions, are contributing most to the ecocatastrophe. He added that, developed nations somewhat consume most of the world's irreplaceable resources while

dumping the largest volume of wastes and harmful contaminants back into the global ecosystem. Haring (1981:185) admits that, the 5.6% of the world's population that lives in the United States requires about 40% of the world's primary resources and causes almost 50% percent of its air and water pollution. It is alleged that, the wealthy nations have often exploited the poor nations by paying them to accept shipments of toxic waste that would be difficult or expensive to process domestically (Neubeck, 1997:152).

It is worth noting that, the Bible/Quran is not specific about the magnitude of population that corresponds with the idea of filling the earth. Although, population growth and extravagance have something to do with the excessive demands being made on the ecosystem, population and affluence alone do not explain the problem.

4.6.2 Science and Technology Theory

It is been observed that, science and technology could not be the panacea to the many challenges of our environment. Indeed, many who reject the population argument blame environmental deterioration on modern science and technology. Buor (2008:60) is of the view that, environmental degradation perhaps poses the greatest challenge to the efficacy of science and technology in addressing human problems. Technology is defined by Anderson (2005:179) as the systematic modification of the environment for human ends. It is a process or activity that extends or enhances a human function, he added. A Tractor, for example, extends one's physical ability just as a Microscope extends a human's visual perception. The accounts in Genesis 1:28 illustrates therefore, the kind of dominion human has over the land and other resources. Humanity is obliged to use and manage these resources wisely in serving the Lord.

However, the problem is not in the abstract technology, it is rather the attitude of human to the human-made technology. Schelsky is quoted by Haring (1981:191) as saying that, “Modern man, as a social and psychic being, has become for himself a technical and scientific task of production.” Haring noted that, a technology that has lost integration and direction, and as a consequence destroys the creativity of the work of most people, will end up upsetting the biosphere at the same time. It seems humanity has lost control of science and technology and environmental deterioration is the result. For instance, in some localities, you could not breathe the air, drink the water (like in some mining communities in Akyem Abuakwa), and eat plants and animals. Neubeck *et al* (1997:153) argue that, science and technology are tools, and tools he noted, can be used in many different ways. How and whether we use them is a matter of choice. Like Neubeck *et al*, Anderson (2005:179) acknowledges that, technology is neither good nor evil. The worldview behind the particular technology determines its value for good or evil. He emphasised that, in the Old Testament of the Bible, technology was used both for good, the building of the Ark in Genesis 6; and for evil, the building of the Tower of Babel in Genesis 11.

This implies that, science and technology could either be used to safeguard the ecosystem or to hasten its collapse. As much as the wellbeing of the ecosystem is concerned, what we need is totally new thinking, new world view, and new patterns of eco-friendly behaviour and practices. What we plead for is not a renunciation of science and technology but for wisdom that allows us to transform, direct and control it for the benefit of a rational being and his environment.

4.6.3 Growth and Development Theory

Development is simply defined as an improvement of the quality of all aspect of life – human resources, physical and social environment. It is worth noting that, material benefit in

themselves do not constitute growth and development. In Africa for instance, culture, religion, and development are intrinsically interwoven. Development therefore becomes a feature of culture in so far as it is the outcome of the citizen's attempt to cope with their living environment. With such understanding embedded, Opoku (1998:46-47) argues that, development means "the upward movement of the whole social system." He further submits that, it means the systematic realization of the full potentialities not only of the individual members within a society or nation, but also of the society or nation as a whole.

Better still is the Dudley Seers' conceptual meaning of growth and development in the presentation of Amegashie-Viglo (Oct., 2004). Seers conceived of development not only as an economic growth but also as those conditions under which people in a country have adequate job opportunities (so they can feed themselves and families, etc), and reduction in poverty and inequality. In his proposition, if one or two or all of the three central problems have been growing worse, then it would be strange to call the result "development" even if per capita income had doubled. Tracing from historic perspective, Haring (1981:185) asserts that, the chief cause of the imperialistic and colonial wars was the ideology of economic expansion. The ideology of constant growth and development of national production, devoid of non-quantifiable aspects of spiritual and social development, has today remained the focal goal of political leaders and democratic nations.

In effect, we are implying that, the conceptual framework of national growth and development has often strived on the dictum that, money is the highest of all values. However, statistics have failed to show us the relationship between Gross Domestic Product (GDP) of a nation and the damage done to the biosphere and to the health of present and future generation (Haring, 1981:186). How can we log every valuable tree in our forest and talk about growth and development? How can we ravage arable lands and pollute water bodies and still talk about development? How can our actions or inactions inspire the

depletion of the ozone layer and its catastrophic effect on the biosphere and be fascinated by growth and development?

Genuine development, Opoku (1998:47) concedes, must be based on the concept of humanity in their full dimension and not on some aspect of their nature. It is the fact that development is a holistic enterprise which aims at promoting the total wellbeing and full potential in human beings. Therefore a developed society, is one in which the material, psychological, and spiritual aspects of humanity are made the basis of societal aspiration and are held in balance.

4.7 CONCLUSION

The main thrust of the chapter has been towards examining the concept of sustainable development. As part of the research, the concept of resilience and adaptive management and their relation with the ecosystem were examined. Sustainable, we said is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Whereas conceptually, resilience is the ability of social systems and ecosystems to continue functioning despite severe and unexpected stresses, Adaptive management is when one simply learns from past management actions, in our case the ecosystem, to improve future planning and management. The chapter further considered Biblical/Quranic stake in the subject matter and stressed that, humanity has been entrusted with stewardship mandate and should therefore exhibit good sustainable practices which offer future generations the opportunity of stable and positive life-patterns. Finally, the attempt was made at identifying the various factors that contribute to the unsustainable use of natural resources. Although, the causes seem inexhaustible, the following were sampled: population and affluence theory, science and technology theory, and growth and development theory.

CHAPTER FIVE

PRESENTATION, ANALYSES AND INTERPRETATION OF DATA

5.1 INTRODUCTION

Human attitudes toward nature have been consciously and unconsciously conditioned by our religious worldviews. Unfortunately the role religion plays, according to Gardner (2002:35), to help sustain the ecology has often been ignored and sidelined in national and international development theory and strategy. He adds that, for thousands of years, ritual has played a central role in governing sustainable use of the natural environment. In Akyem Abuakwa today rituals, religious folklore and practices may have little or no impact on the way people think about their environment.

This chapter is organized under two main headings. The first section covers the results of the main data of the study. This study aims at investigating the interplay of religion, ecology and sustainable development in the Akyem Abuakwa traditional area. The second section will analyse the result of the study.

5.2 PRESENTATION OF RESPONSES

In view of the strong religious and cultural matrix of the people of Akyem Abuakwa, designed research questions, one-to-one interview and field observation as methods for soliciting responses and views were adopted. Even though responses vary in some instances, there were recurring views in most of these instances. Six different sets of questionnaires were given to 95 respondents in selected communities in the Akyem Abuakwa traditional area. These included the Muslim community, the Christian community, the traditional authority, the district administration, the environmental agencies, and the rural folk. In

addition, a number of individuals and groups were engaged on one-on-one interviews. Chiefs and elders, Pastors and Catechists, Malams and Muslim leaders, school teachers, a district chief executive and a palace secretary were interviewed.

5.2.1 Causes of environmental degradation

Research questions were used to find out whether or not the residents of Akyem Abuakwa were aware of any environmental degradation within their geographical setting. It was also to ascertain from the people the aspect of the ecology they consider more degraded. In response to the statement, “What constitutes (causes) environmental degradation in the Akyem Abuakwa traditional area?”, respondents mentioned timber logging, mining, Sand winning, indiscriminate dumping of refuse and indiscriminate defecation as the major environmental challenges they face in the traditional area. The data reveals that, 52%, 40%, 53%, 32%, and 35% of the rural folk, Church and Muslim communities, traditional authorities, and District Assemblies respectively considered mining activities as the most degrading environmental activity in the area.

On the other hand, 18%, 33%, 24%, 27%, and 30% of the rural folk, Church and Muslim communities, traditional authorities, and District Assemblies respectively considered timber logging activities as the second most degrading activity in Akyem Abuakwa. However, 50% of the Environmental Protection Agencies considered timber as the most degrading activity in the area, with another 40% of them pointing to mining as the second most degrading environmental activity in the area. It follows that, 13% of rural folk, 18% and 10% of Church community, 24% of traditional leaders, 20% of the District Assemblies, and 10% of Environmental Protection Agencies deemed indiscriminate dumping of refuse as the third most destructive environmental activity in the Akyem Abuakwa traditional area. This is in

contrast with the contemplation of the Muslim community who rather considered indiscriminate defecation as the third most degrading environmental activity in the area.

Emmanuel Atta-Twum who is the District Chief Executive (DCE) of the Atiwa district of the Eastern Region of Ghana admits that, environmental pollution in his district in particular and the entire region is real and mind bothering. In his view, it has reached such a catastrophic point that if nothing is done about it very soon nature will strike back. According to Atta-Twum illegal mining (galamsey) operators are found in most areas of the district. He stresses that, these illegal miners are selfish because their activities have halted farming activities in some communities while in others, water bodies have been polluted.

Atta-Twum argued that the flooding experienced in his district and the other districts in the Eastern Region in July 2011, in which five persons died, was partly as a result of mining activities. He believes miners in the district have often blocked or diverted water bodies, particularly River Birim, and this has resulted in flooding anytime it rained for more than ten hours. He cited the destruction of the Ankaase farm lands and the only potable water source, River Birim.

Abusua payin Kofi Atta of the Asona clan of Ankaase affirms that, the illegal mining operators, in an attempt to extract gold from the river bed, have ended up blocking it partially. This he concedes has denied the residents access to potable water. He added that, farmers whose farm lands is situated at the trans-Birim may have little or no access to their farms. When asked whether these mining operators consult their outfit for clearance before exploring the land, both Atta-Twum and Kofi Atta answered, “No”.

Atta-Twum further expresses grief over the rate the forest is being depleted. He claims the three cluster of reserved forest of Atiwa, Abomosu, and Asunafo have all been depleted of its resources by illegal chainsaw operators. He argued that the chainsaw operators are cartels of gangsters who are also found with sophisticated weapons to ward off forestry officers. The forest reserves at the Atiwa district falls in the jurisdiction of the Mpraeso and Kibi Forestry division of the Ghana Forestry Commission. Atta-Twum stated that, there were chainsaw operators cutting down trees in one of the forest reserves, “we’ve heard about it yet it’s been very difficult to call for an arrest.”

Kofi Atta blamed the increasing number of unemployed youth in the country for the illegal logging and mining activities. Some Muslim youth respondents, at Akwatia, seem to agree with Kofi Atta, saying that, galamsey activities are risky but it is escalating in the area mainly because there are no job opportunities for them. Asking whether they do not care about the destruction of our environment, they answered, “We care, but we must survive.” Kofi Atta further accused those meat hunters whose practice it is to burn bush for meat since, he claims, it contributes to the degradation of the forest in the district.

5.2.2 Effect of Environmental degradation on livelihood

The human and cultural factors which necessitate values, norms and religious practices are here compromised. A vast farm land at Osino, Ankaase, Kyebi Apapam, Akwatia, Akyem Akropon, Abomoso, Asamang Tanfoe, Sankubenase, Akyem Mampong, and Morso, for economic reasons of gold and diamond extraction, have been ravaged. These sites confirm the fact that, human and cultural factors which are central to development discourse are now supplemented by economic determinism.

Consequently, it was typical to ask the question, “How is environmental degradation affecting your community?” In response to this, 38%, 37%, 46%, 45%, and 40% respondents which are made up of rural folk, Church and Muslim communities, District Assemblies, and the Environmental Protection Agencies respectively answered, “Lack of potable water supply” as the most effect the communities are grappling with. Another claim was that, 24%, 26%, 30%, 34%, and 20% of the rural folk, Church and Muslim communities, District Assemblies, and the Environmental Protection Agencies respectively deemed “low food production and the higher cost” of food items as the second challenge Akyem Abuakwa is confronted with. The survey further shows that, an average of 45% of the rural folk, Church and Muslim communities, Districts Assemblies, and the Environmental Protection Agencies considered “Poor health” as the next effect on the people due to environmental degradation. In addition, 10% of the respondents said the level of “Poverty” in the Akyem Abuakwa communities has increased.

5.2.3 Water situation and environmental degradation

On the question of how environmental degradation is affecting Akyem Abuakwa communities is appropriate; and it sought to find out from the residents their condition of living. As much as the Akyem Abuakwa traditional area is predominantly a farming community any factor that impinges on their land and natural resources may negatively affect their living standard. As the above statistics have shown, a majority of respondents in the study claimed being affected badly in the area of potable water. River Birim, which used to be the major source of potable water, has now been polluted and that, the tributaries have been affected. In communities like Edwenase, Kade, Kusi, Abompe, Abomosu and Ankaase people now depend on either Boreholes or Sachet water as an alternative water sources for their household chores.

According to Samuel Gyekye Twumasi the Catechist of the Presbyterian Church of Ghana at Edwenase, Kuako and Bonkuben are two streams which were previously used for household chores but have now lost their place and function in household activities due to pollution. Twumasi added that, some growers of vegetable at the banks of these rivers are culpable for they have polluted the running waters with anti-weed and pesticides. The rivers, he stressed, are emptied of fish because of the chemicals used by farmers and miners.

It was observed that many such communities are depending on boreholes for their water needs. For instance, Abompe which is a small farming community is now depending on five boreholes for their water supply since rivers and streams are heavily polluted.

5.2.4 Food situation and environmental degradation

On the other hand, considerable number of respondents, as figures above have shown, believed that environmental degradation has affected food production and cost of food items in many areas of Akyem Abuakwa. As part of his contribution to a group discussion at Abompe Local Authority Primary school, Kwame Sarfo, a school teacher, underscores the fact that food shortage is real in the surrounding communities and that, food vendors sometimes travel to Koforidua for cassava supply. Samuel Twumasi alleged that, prices of food items have gone up by sixty percent in recent days. When we wanted to know why there should be food shortages and high cost of food items in the communities, the following reasons were given:

According to one respondent, arable land for crop cultivation has been ravaged for the sake of mining. He added that, sometimes cocoa plants are cut down or uprooted to make way for mining activities. The same respondent argued that, the youth no longer have interest in

farming. In his view, the youth are claiming that, it takes too long a time to sow and harvest. Another respondent added population growth in the area as a possible cause of food shortage and high cost of food items.

The respondent stated that, some of the communities are experiencing sudden influx of jobless young adults who have engaged themselves in all sorts of jobs, ranging from petty trading, fast food vending, construction work, to barbering and hair dressing. Indeed, to produce enough food to feed the increasing population requires large farm lands and many active hands that desire to work.

5.2.5 Human Health and environmental degradation

On the question of the effects of degrading environment on the communities of Akyem Abuakwa, respondents from the rural folk, Church and Muslim communities, Districts Assemblies, and the Environmental Protection Agencies considered “Poor health” as the third most pressing challenge which residents, especially those in the mining communities, are grappling with. A respondent who is a health and sanitary officer in the Kwaebibirim district in the Akyem Abuakwa traditional area does affirm that, the people are susceptible to outbreak of diseases in the situation where there are, stagnant waters, lack of toilet facilities, and indiscriminate dumping of refuse.

On the basis of effective data analysis, two levels of response were developed, specifically, “Yes or No” and “I don’t know”, for the question, “Do you consider environmental degradation as affecting the livelihood of the people of Akyem Abuakwa area?” About 81% responded “Yes” implying that, the respondents believe environmental degradation does affect their lives. About five percent of the respondents answered “No” which suggests that they have not been influenced by the trend of the environment. In response to the statement,

fifteen percent of the respondents answered “Don’t know”. This may suggest they have not considered it or rationalised any view of that sort.

5.3 EFFORT TO ADDRESS ENVIRONMENTAL DEGRADATION

It is one thing giving a talk on environmental degradation and another to address it; it is another thing implementing and making sure it has worked in the lives of the residents. On the question of “What has been the effort made by the local community in addressing environmental degradation?”, was posed to solicit views on the extent of effort one has made, the desirable measures and methods one needs to put in place in order to curb the environmental menace. About of 50% rural folk, 100% of traditional authorities, 100% of Environmental Protection Agencies, and 100% of District Assemblies responded that, the local communities have made considerable effort in addressing environmental degradation.

The survey further shows that, 30% of rural folk responded, “No effort” to the question. This implies that they have either not seen or involved themselves in any such activities that sought to address environmental degradation in the communities. Again, 20% rural folk answered, “Do not know” to the question of effort made by the local community in addressing environmental degradation.

5.3.1 Environmental health officer of Atiwa district assembly and intervention

In response to the question, “What has been the community’s effort in solving environmental degradation?” Victoria Ametepey, the environmental health officer of Atiwa district assembly responded in affirmative. She believes that, illegal mining activities, water pollution, illegal felling of trees are all on the rise. However, she was quick to add that, certain areas of the environmental management have received some level of interventions which to her, is a clear indication of hope. In some communities, she noted, sacred groves

like those in Kwabeng, that have been held in reserve for many years by the traditional authorities have not been compromised. Ametepey alleges that, pollution through defecation and indiscriminate dumping of waste in her district has been brought to the barest minimum.

5.3.2 Atiwa District Chief Executive and Intervention

Responding to the question on, “What intervention is needed in solving environmental degradation?”, Atta-Twum (DCE) submitted that, a rigorous civic education on the conservation of nature and resources management should be embarked on in the traditional area. He claimed that, his outfit has in the past two and half years organised fora by inviting inspirational speakers and experts to educate stakeholders on matters of proper environmental management. He made a passionate appeal to the traditional authority and land owners to help enforce environmental laws and regulations since, in his view, illegal miners, timber merchants and sand winning contractors cannot operate successfully without some sort of approval from traditional authorities.

Regarding the fact that illegal miners indiscriminately ravage the land; and as a way of preventing further ecological abuse, Atta-Twum disclosed that, in 2011 his outfit invited military personnel into his district to help seize a number of excavators from the illegal miners. He admits that, “the enormity of the problem is too huge for a district to curtail. Once in a while these interventions are made”, he alleged.

With regard to the menace posed by illegal chainsaw operators, Atta-Twum pointed out that, the Forestry Task Force has been confronting perpetrators. He argued that, the role of Okyeman Environmental Task Force (OETF) is significant. However he was quick to conclude that, “We are all doing our best but it is a losing battle for now!”

5.3.3 Ankaase Traditional Leader and Intervention

Similarly, the question on, “What effort has been made to ensure that environmental degradation is addressed?”, Nana Asare Asiaman II chief of Ankaase, said the elders of the community have decided on putting an end to illegal mining activities. He claimed that, land owners have been summoned to hold discussion on the subject illegal mining and the impact on their environment. He claimed to have issued threats that have sometimes prevented escalators from entering the community. However, his response to the allegation that traditional authorities have given access to illegal activities was that, culprits have many times outwitted the chiefs and elders of the communities. He cited the case of many excavators in his community and bemoaned the fact that most of these excavators were carted to the supposed mining fields in the middle of the night. He further stated that, some of the illegal chainsaw operators have resorted to night operations. According to him, these operators who have all the essential lighting system coupled with their sophisticated weapons have succeeded in thwarting the efforts of the Forest Guards.

5.3.4 Traditional Leader of Kade and Intervention

In reacting to the question of, “What effort is made in addressing environmental degradation in Akyem Abuakwa?”, Nana Gyae Korang Adutwum the ex-chief of Kade submitted that, Okyeman Environmental Task Force was instituted by Okyehene to address those evil perpetuated against natural resources within the confines of the Akyem Abuakwa area. Adutwum concedes that the task force is collaborating with the Ghana Police Force and that they are doing their best to protect the ecology. He nonetheless, expressed concern about the way and manner timber and mining concessions are allocated to prospective contractors and how these concessions are executed. To be able to forestall environmental degradation, the ex-chief suggested that, views of traditional leaders should be considered in the allocation

process. By this, he said, chiefs will have the authorisation to intervene in situation of environmental abuse.

Other respondents from Kade and Akwatia are of the view that, environmental offenders are recalcitrant and are interested only in the money they make but have less interest in the general welfare of the people. They cited a situation where some galamsey operators at Akwatia and its environs could go to the extent of unearthing foundations of houses they do not own and gather the sand underneath for diamond extraction.

5.3.5 The Assistant Okyeman State Secretary (land) and Intervention

With an interview granted us by Emmanuel Ofori Baah, the assistant state secretary in charge of land of the Akyem Abuakwa Traditional Council on the 22nd February 2012 at the Okyenhene's palace Kyebi, the question of effort to address environmental degradation was asked. He admitted that the Okyenhene has tried as much as possible to control the illegal mining and lumbering activities but people are still perpetrating them. Further attempts, according to Baah, were made by the Traditional Council to invite the Eastern Region Divisional and Regional Police Commands to help curb the menace but all to no avail. Soldiers were as well sent in to help control the situation and in the process seized fifteen excavators for onward prosecution. Like the earlier actions, this could not stop the illegal operations of those destroying the environment. Baah finally said, *yεrebɔ mmɔden deε nanso ɔko no ayε den!* (We are all doing our best but it is a tough battle for now!).

5.4 RELIGIOUS BODIES AND ECOLOGICAL DEGRADATION

The study focuses on the three main religions practised by the residents in the Akyem Abuakwa Traditional area namely, Christian, Islamic and the Traditional religion. In this section however, interviews relating to the Christian and Muslim communities shall be discussed.

5.4.1 Christians and Muslims involvement in addressing Environmental Degradation

On the question of, “Do Muslims and Christians get involved in activities that preserve the environment?”, 100% Christian respondents and 92% Muslim respondents answered “Yes” to the question. However, 8% Muslim respondents answered “No” to the question. The “No” answer might suggest that, they have neither seen/heard nor engaged in any activities that address or forestall environmental degradation. The next set of questions sought to elicit information as to how far the Church/Mosque has practicalised its teachings and understanding of the environment. Therefore in response to the question, “Were the activities (environmental restoration activities) initiated from within the Church/Mosque?”, 100% Christian and Muslim interviewees answered “Yes” to the question. Further 13% and 27% of Christian and Muslim respondents believed that the outcome of the activities initiated within the church was “Very good”. That notwithstanding, 87% and 73% of Christian and Muslim respondents said the outcome of the activities initiated within the church was “Encouraging”. The survey further wanted to know whether the Church/Mosque has engaged with other stakeholders in preserving the environment. With this, 38% and 42% of Christian and Muslim respondents respectively answered in affirmative. Another 50% and 58% of Christian and Muslim respondents respectively answered “No” to the question. However, 12% of Christian respondents claimed, they “don’t not know”.

It was however observed that, the Church and Mosque involvement in preserving and promoting the course of the environment varies with communities. For instance, whereas both Christian and Muslim respondents at Kade could not point to a single campaign of environmental intervention except perhaps, a cleanup exercise organised in the distant past, respondents at Edwenase told us a different story.

Samuel Twumasi the Catechist of the Presbyterian Church and an opinion leader of the community declared that, it took his personal effort (He told the regent and the entire community that, he would rather die than to allow the devastation of their environment) and that of the members of his Presbyterian Church to prevent a mining exploration. According to Twumasi, the erstwhile mining company of the town left behind a rather clumsy and undesirable legacy. The company left behind unfilled holes and deep trenches which today, Twumasi said, have become death traps; consequently, they could not tolerate another mining company.

At Kwabeng, the District information officer, Daniel Adusei Poku said the Local Council of Christian Churches is in collaboration with the District Council to restore the devastated ecology. He cited numerous instances when the Churches have embarked on clean up and tree planting campaigns. Adusei Poku praised the Church for the role played during the 2011 flooding in his district. He singled out the Seventh Day Adventist Church (SDA) and commended them for the logistic support she offered the Council.

He also commended the effort made by the Muslim community. He said occasionally they could mobilise themselves into a working force to desilt a nearby stream; they have also been seen clearing bushes around a school close by. Adamu Muhamed affirmed Adusei Poku's

observation and questioned why land around the Kotoani River has been re-zoned for building construction. He considered such interference unfortunate and detrimental to the future state of the water body. The water source may dry up in possibly a few years time, he submitted.

5.4.2 Religious Bodies Concerns

When asked if “religious bodies should consider ecological degradation an issue of concern in their teachings and gatherings”, the study revealed that 100% Christian respondent, 92% Muslim respondent, and 71% traditional folk answered “Yes” to the question. Another 15% of the rural folk and 8% of Muslim respondents said “No” to the question. Again, on the question of, “Does the teaching of the Church/Mosque responsible for the way adherents relate to the environment?”, revealed that 31% Christian respondents and 100% Muslim respondents answered in affirmative. On the other hand, 69% Christian respondent answered “No” to the question. Further question was posed to establish the in-depth knowledge of Christians and Muslims on environment. The question was, “Does the Bible/Quran instruct the Christian/Muslim community to be environmentally friendly?” The response received shows that, 100% of both religions agree that, the Bible/Quran indeed equips adherents to be environmentally friendly.

Respondents agree that citizens have been ignorant for far too long and that it is time they are sensitised on this important subject matter. A Muslim respondent at Akwatia observed that, Allah the Almighty created plants, animals and virtually everything and so any knowledge of the use and management of them is religious. He asserts that, the Mosque should intensify the teaching and preaching about the environment.

In the same vein, a Christian Minister at Osino argued that, God owns the universe and made humanity stewards over the created order. Hence, human health is connected to the soundness of our environment. Nevertheless, because environmental degradation brings poverty, sickness, and early death, it behoves the religious institutions to proclaim messages of sound environmental management and practices. Respondents also share the view that, religious people should lead the crusade against environmental degradation by their lifestyle; they should also desist from intervening for those culprits who are caught by the law and allow the law to have its course.

5.4.3 Religious Training and Environment

In response to the question, “Should a course on environment and sustainable development be included in the academic curricula in the training of our religious leaders?”, received exciting response. 94% Christian respondents and 80% Muslim respondents said “Yes”. Another 6% and 20% of Christian and Muslim respondents however answered “Don’t know”. Respondents believe that, Christian and Islamic leaders are respectable people in the society; they are also educators and opinion leaders who are listened to by many. Therefore, their knowledge of the environment and its sustainability is significant for onward promotion of the environment. As one respondent succinctly puts it, “a knowledgeable pastor has knowledge on offer; an ignorant pastor has ignorance on offer.”

Some respondents (Both Christians and Muslims) agreed that, some of their leaders are ignorant on matters of the ecology and sustainable development consequently, they neither preach it nor encourage their congregation to embark on environmental campaigns. When respondents were asked to give a Bible or Quranic reference that speaks about the ecology or sustainable natural resources from memory most of them failed. For over twenty Muslims interviewed none could produce a Quranic reference from memory, rather, they asked for

time to talk to their Imam or someone else. The situation is not much different with the Christians except that, a handful of over thirty five interviewees were able to give the following references: Isaiah 5:13; Deuteronomy 23:12-14; Psalm 24 and Genesis 1-2.

5.5 TRADITIONAL AUTHORITY AND THE ENVIRONMENT

Questions were asked to find out whether traditional leaders were conscious of the persistent damage their environment have suffered and that, measures to address perceived damages have been put in place. Consequently it was typical to ask the question, “Are there traditional laws that protect the environment?” In response to this, 100% respondents answered “Yes” to the question. The followed up question was that, “What laws have been set up by the traditional authorities to protect the environment?” In response, about 37% respondents mentioned “Not farming near rivers/streams”; 32% respondents said, “Not working on the land on certain days”; and 31% respondents answered, “Protecting Sacred groves”. On the question of, “Is there any initiative taken by the town to prevent environmental degradation?” 100% respondents answered “Yes”. Responding to the question, “What measures have the traditional leaders taken to address the problem of the environment?”, 39% respondents have mentioned “Clean up exercise”; another 39% respondents answered, “Desilting gutters”; further 22% interviewee stated, “Tree planting” as the regular measures used by traditional leaders.

5.5.1 Osabarima Mmirrikkissi Okasum Apori Atta II chief of Heman

Osabarima Mmirrikkissi Okasum Apori Atta II is known for his enviable stance on environmental conservation. On the question of “the role of the traditional authority in forestalling ecological degradation?”, the chief observed that, chiefs are custodians of the

trust bequeathed them by their ancestors and it thus behoves them to protect it. Our field observation points to the fact that, many respondents consider Apori Atta their role model particularly, in the area of ecological preservation.

The Cheif claimed to have resisted the policy that permitted the felling of *Ceiba pentandra* (Onyina) across the Akyem Abuakwa topography. Concession holders could therefore not fell a single tree in his territory. According to him, Densua and Akerasu are the only streams left for the use of household chores, the rest namely, Danyame and Asuokoo have dried up due to human activities hence, the need to protect their remaining water bodies.

5.5.2 Baffour Amoa Asare II the Ahenemmahene of Kade

Baffour Amoa Asare II the ahenemmahene of Kade, who has the warden responsibility to pour libation to the river goddess of Birim, Kadewa, and Anankasua in ceremonial periods, during our interview with him on Friday, the 27th January 2012 said that, a lot of evil has been perpetrated against our rivers in recent days. He recalls the days of old when portions of the banks of the Anankasua River were reserved as a sacred grove but bemoan how the picture has suddenly changed. Today there are houses everywhere so much so that the river is almost driven out of her habitat, he submitted.

When he was asked the question of, “How has Sacred groves and nature been visited with this magnitude of destruction?”, Baffour Amoa Asare suggested that, people are no longer scared of myths and taboos of the traditional religion. Again, he blamed multiplicity of religion on the Okyeman landscape and supposed that liturgy of these religions have affected nature preservation. In the traditional beliefs water bodies, cemeteries, and designated groves are considered sacred and they are places that should not be disturbed. He alleged that, many Churches have built in the swamps, and mentioned a church that has been built in the middle of a cemetery at Kade.

Finally, when he was asked whether environmental degradation menace could be attributed to population growth, Amoa Asare admitted that, population of the Community has increased consequently, the demand for both farm land and land for estate development have equally increased. He further observed correlation between population growth and reduction of sacred groves in the traditional area. Again he says, there is so much pressure on the public latrines that residents are sometimes seen defecating in the bush. He concluded that, we need to revisit our cultural and traditional practices. He added that, the other religions should acknowledge the impeccable contributions Africa traditional religion has made to the upkeep of the ecology.

5.5.3 Impact of Prudent Traditional Leadership on Environment

On the question of how he has been successful in the conservation of forest, water bodies, vegetation and other natural resources, Apori Atta II pointed out that, his town (Heman) has a population of 15,000 therefore, he does not want them cheated of their heritage. Therefore, His policy on mining for instance, he argued, is simple and strictly based on the principle of sustainability.

He argued that, a prospective mining company should first establish that they have the capacity to supply four gallons of water per person per day on a sustained basis. This could then be translated as 60,000 gallons of sustained potable water supply per day is required by the township, this he said, is the first requirement. The second requirement, according to Apori Atta, is that in law exploration could only be done on a land 200 feet away from a river source. He says prospective miners are therefore uncomfortable with this requirement because they know in Akyem Abuakwa precious minerals are mostly found either in the river basin or along the river banks.

He also talked about a third requirement that, a prospective miner should overcome in order to operate in his topography. This he says is the Allodia land title which in some circumstances has rendered some traditional rulers as mere custodians. With Allodia title a resident in a community may have the highest right to a parcel of land and therefore may decide to act contrary to the directives of his traditional authority. He says destroyed vegetation takes about 25 years to regenerate, people should therefore be mindful of how they use and manage our natural resources.

An interview with Nana Asare Asiamah, the traditional head of Ankaase on Tuesday, the 21st February 2012 demanded that the chief explain to us why illegal mining firms have been able to infiltrate his lands and yet he claims innocence. Asare Asiamah's response was that, the individual land owners of Ankaase had refused to constitute a cooperative mining society in order that they can negotiate for higher fees and essential social amenities like boreholes for the town. He adds that, the land owners rather went on their separate ways to lease out their farm lands and in some cases river basins to these miners.

Like Nana Asiamah above, Apori Atta II was asked to explain how he has the cooperation of the entire township of Heman in this endeavour. The Chief stressed sensitisation and education. The people should be made to understand the benefits of prudent measures of managing ones natural resources. Also they should be informed of the pros and cons of illegal mining or timber lumbering activities. By virtue of experience, he claims such civil education should bring to light the rights and responsibilities of the people so that they are not intimidated by the prospective' mining allocation documents. Finally, the traditional authority should be trustworthy so that the people can have faith in them. The people will cooperate if the afore mention is practised, he said.

5.6 THE TRADITIONAL LEADERSHIP AND STOOL LANDS ROYALTY

The following research questions were designed to help establish two realities. First, the questions seek to ascertain from the Nananom (traditional authorities) the impact of the royalties received on their financial management. How accurate or otherwise is it to suppose that royalties received by Nananom are enough? Second, the researcher desire to know, if there is any, the correlation between the environmental pollution menace in Akyem Abuakwa and the quantum of royalties received by the traditional authorities.

Consequently, it was typical to ask the following questions. Answering the question as whether those who engage in timber logging, mining, and sand winning activities pay royalties to the Stool attracted the following answers. 73% and 18% of respondents answered “Yes” and “No” respectively to the question. 9% of respondents however, answered that “Sometimes” royalties are paid to the stool. These respondents however added that, a number of illegal activities are often carried out before the traditional authorities are even made aware of.

On the question of the Quantum of money pay as royalties to the Stool, all the interviewees (100%) answered, “Too small”. The traditional leaders therefore think they are being cheated of the royalty pay out. However, responding to the question, “Why are some not paying royalties?”, most respondents (60%) said invaders have been operating illegally and so it is difficult to pursue them. About 40% of respondents said users of land and natural resources have been paying royalties through the Central government. With regard to what the royalty payout is used for, seventy four percent of respondents mentioned that, they are for the traditional leader’s upkeep. These respondents nonetheless bemoaned the quantum of money in question and stressed that it is too small to be used for a developmental project. However, 40% of respondents thought that, the money was meant for developmental projects. As

regards to the question, “Does non-payment of royalties affect the way land and natural resources are managed?”, 60% of respondents answered “No” as against 40% who said “Yes” to the question. These responses will have obvious consequences on how nature is either abused or preserved in Akyem Abuakwa.

5.6.1 Royalties Paid and Challenges of Environmental Degradation

With an interview granted us by Emmanuel Ofori Baah, on the 22nd February 2012 at the Okyehene’s palace Kyebi, he attempted to address the two issues raised earlier: the impact of the royalties received on their financial management, and the quantum of royalties received by the traditional authorities in relation to environmental management.

The question of what quantum of money is received by the traditional authorities as royalty payout was interesting. Baah stressed that, Nananom were managing their own affairs, their own stool lands and had already set up an administration which was collecting stool lands revenue which was controlled by the Okyehene before the Colonial office (British) took over the administration of Gold Coast.

The Assistant State Secretary observed that, the Act of Parliament (CA8): Akyem Abuakwa Stool Lands Revenue Act was passed in March 1958 which gave the authority to collect stool lands revenue to the government under the then District Commissioners or Government Agents. It was put in the Act that, 7.5% (now, 10%) of the stool lands revenue should be deducted as the administrative cost for the office of the receiver. Thereafter, 30% should be used as a Scholarship Fund for the Akyem Abuakwa citizens. The remaining 62.5% would be given to the Akyem Abuakwa Traditional Council to run the administration.

To the question as to what has been the state of the stool land revenue, and the practice thus far, Baah had the following to say, “Our present constitution (Article 267) allows the

collection body, namely, office of the Administration of Stool lands of the Land Commission to take 10% of the revenue collected. Of the remainder, 55% is paid to the District and Municipal Assemblies. Then, 25% is allocated to the local stool land owners whilst another 20% is paid to the traditional authority of the area.”

Baah therefore argued that, the traditional authorities have no authority over the revenue generated even from their own lands. From the initial pre-colonial hundred percent (100%) royalty pay-out, it was reduced to sixty two and half percent (62.5%). Currently, Nananom receive a further reduced share of twenty percent (20%) of the stool lands revenue. Baah made this observation, *sika a Aban de ma Nananom ahenfo no sua paa, entumi nye hwee* (the share of stool lands revenue given to the traditional authorities by the government does not and cannot sustain the huge expenditure of the traditional council). Apori Atta of Heman seems to agree with Baah’s observation. He claims to have disregarded his share of royalty for some time now since the money involved is insignificant.

As regards the question on a relationship that possibly exists between environmental degradation and the quantum of royalties received by the traditional authorities, Baah debunked such a notion. He discredited the view that, the reduction in the amount of royalty payout is what is motivating some traditional authorities to allow illegal activities consequently, environmental degradation. For instance, he argued that, Nananom (traditional authorities) are not permitted to give a right for mining, hence, they do not authorise mining. Although the minerals underneath the land are for the Stool and Nananom, Baah observed that, the government has the sole right to grant permit to prospective miners. He recalled situations when miners have gone to the Land Commission, Accra to acquire the right to

mine a particular parcel of land. Often some of these prospective start their operations before Nananom are even made aware of it. In Baah's view, this legal framework renders Nananom helpless and makes it difficult for them to control illegal activities on the land that destroys the environment. He cites Ankaase where individual farmers sell their farm lands to these galamsey operators who leave pits uncovered and run away.

Ampoma Darko who is a farmer at Akaase and was interviewed on the 25th February 2012 agrees that the miners do not cover up the pits; consequently, the residents are destined to experiencing perennial flooding and accidents. Darko agrees that, the Ankaase land will take many years of natural regeneration. Baah, therefore, believes that, there is no such relationship between the low amount of royalties and environmental degradation menace in Akyem Abuakwa.

5.6.2 Future environmental sustainability

It is believed that there are three groups of stakeholders of our natural resources: they are the Traditional authority, the State or Central government, and the Private developer. Whilst the traditional authority holds the land and its resources in trust for her subjects; the government has within its sovereignty the control over all land and mineral deposits. The private developer is that agent who seeks to invest in these resources and whose prior objective has often been that profit is maximised.

Investigations have revealed that respondents are somehow confused about who exactly should be blamed for the environmental abuse. Is it the traditional authority or the governmental agents in charge of natural resources who have failed the community by not executing the regulatory framework? Where exactly do we fit the legal and illegal operations of the private investor?

The question of future sustainability of Akyem Abuakwa environment was framed to elicit information from respondents. About 28% of respondents answered “Bright future” and said, although the situation appears gloomy and costly they believe that, the current experience has changed their outlook towards environment. When asked whether individual land owners still have the interest to lease out their farm lands, which in some cases have cash crops such as Cocoa and Orange plants on it, to the illegal mining operators, most of these respondents answered “No”. Respondents believe that, the enormity of destruction they have seen and are experiencing is unimaginable. River Birim and its tributaries, for instance, have all been rendered undrinkable, this they all agree, has taught them a lesson. Respondents accuse the Central government for granting lease to people who have no technical knowledge about resources sustainability. They also think that, the views of the local community should be paramount in any such decisions.

5.6.3 Accusation of compromising with Perpetrators

Some respondents, however, accused Nananom for failing to act as credible custodians since in some communities they have rather engaged in secret negotiations with the perpetrators. A case in point is the struggle between the residents of Edwenase and their traditional authority. The latter wanted to lease out some parcels of land to an unknown mining prospective which the residents upon hearing about this scheme vehemently came out to oppose. Unlike Edwenase, Abompe, and Akaase, Heman has untold amount of diamond and gold, a great heap of sand which sand winning contractors have desired to exploit but requests to that effect have repeatedly been dishonoured by the traditional authority. By virtue of experience and environmental sensitivity, respondents are now campaigning for support to say “enough

is enough” to environmental abusers. They hoped to see a prudent environmental management and strategies and a brighter future for all Akyem Abuakwa residents.

5.6.4 Gloomy future Environmental sustainability for Akyem Abuakwa

On the same question of future sustainability of Akyem Abuakwa, 67% of respondents answered “No future”, and said the state of environmental degradation is worsening. They consider traditional authorities, and the State and/or Central government as the most awful culprit. Respondents believe that, some traditional leaders have by their deeds contributed to environmental degradation. They alleged that, Alcoholic drinks, sheep, and undisclosed amount of money are often given to them in secret otherwise there was no way perpetrators could operate on their stool lands with no one calling for their arrest.

A respondent, who was once a Chain Saw operator, alleged that he had often given sums of money to a “sub Chief” of his community to enable him have access to trees in the forest. Another respondent alleged that, a traditional authority (name withheld) he knew gave forest consignment to a timber merchant and collected a huge amount of money and Mercedes Benz saloon car in return. He further alleged that, the forest guards who supposedly are stewards of Atiwa forest have been taking bribe from the Chain Saw operators. It was also supposed that, some traditional authorities are personally involved in the galamsey operations. Their modus operandi, according to a respondent, was through some gang of young men they give lodging and financial support to. These men are consequently obliged to sell their stock of gold or diamond only to their host. These respondents admit that, environmental degradation is at its ruthless state and challenging in Akyem Abuakwa and that, stakeholder’s sensitisation programme should be considered. For now, these respondents think the future sustainability of Akyem Abuakwa environment has no future.

5.7 ANALYSES OF DATA

This section analyses the data gathered during the study. The study investigated religion in relation to ecology and sustainable development, the Akyem Abuakwa experience.

5.7.1 Perception about degradation in Akyem Abuakwa

Akyem Abuakwa traditional area is also called “Kwaebibirim” because of the greener nature of its topography. Generally, there are about 48 Forest Reserves in the Eastern Region, including the Atiwa range forest, Ajenua Bepo, Alema, Apapamu, Abomosu, Sekyase and Kwei Asunafo, Karu, which have also been assaulted by illegal activities (Kudom-Agyemang, March 2012). Many of these forest reserves are found in the Akyem Abuakwa Traditional Area. The residents indeed have a firsthand experience of what a good environment ought to have been. They seem to agree that illegal mining and logging are the main causes of environmental degradation. Although, other causes like sand winning, bad farming practices, hunting activities have also contributed to the menace.

The people appear to have a fair knowledge and implications of having their environment degraded. They are already suffering from food shortages, poverty and shortage of potable water supply. They have blamed land owners and traditional leaders who leased out parcels of land to illegal mining operators also known as galamsey operators. Central government is not left out in this accusation since it could have intervened in the massive destruction of farms and farm land, water bodies, forest and other life forms. The fact that, the people are releasing information about the tracking of perpetrators is a clear sign that they are fed-up with environmental degradation.

5.7.2 Causes of environmental degradation

Stake holders of traditional leaders, Central government representatives, local folk, Christians and Muslims have indicated through the study that, they are aware of environmental degradation. The study further reveals that, they are informed of the causes of environmental degradation in Akyem Abuakwa. Timber logging, Mining, Sand winning, Indiscriminate dumping of refuse, and Defecation are mentioned as the major environmental challenges of the area. The study further observed that, youth unemployment was a problem in the study area and that forced them into environmental destruction activities to earn a living. One therefore admits that, environmental pollution in Akyem Abuakwa is real and mind bothering. It seems to have reached such a catastrophic point that if nothing is done about it very soon nature will strike back. As it has been indicated earlier, Mining and timber logging are found to be most environmental degrading activities in many of the communities in the traditional area.

However, it is often been difficult to discern into the legalities of these mining activities. Many of the respondents have accused Ministry of Land and Natural resources who they said, have given mining rights to people who neither have the expertise nor machinery to extract these minerals. Respondents such as traditional leaders and land owners think the Central government, through the Ministry of Land and Natural resources, has infringed on the Stool land Act and the Allodia land title right. It was suggested that, such attitudes cast doubts on the intention of the Central government particularly, when it has refused to engage the land owners in open forum discussions before mining or logging allocations are made. In ones view, these illegal miners are selfish because their activities have halted farming activities while in others, water bodies have been polluted.

Often local farmers and land owners feel threatened by these miners who carry with them allocation certificates from the Ministry of Land and Natural resources. The counter however is the fact that, these land owners have themselves been leasing out parcels of land to the illegal mining operators (galamsey). The study does reveal that, respondents have noticed that, illegal mining activities have contributed far more environmental degradation than the case of legal mining operation. It was observed that, illegal miners have always failed to fill up pits and trenches, a possible death trap in time to come. A respondent, Samuel Twumasi of Edwenase is believed to have led a resistant movement against a prospective mining company because the erstwhile mining operation left with the community a legacy of dangerous open pits and trenches.

Most respondents believe that, timber logging is the second most degrading environmental activity in the area. It was observed that, Akyem Abuakwa has lost most good logging materials which explain why chainsaw operators are encroaching reserved forests. Most respondents express grief over the rate the forest is being depleted. There are about three clusters of reserved forest of Atiwa, Abomosu, and Asunafo in the Atiwa district alone but they have all been depleted of its resources by illegal chainsaw operators. It seems these chainsaw operators are cartels of gangsters who are also found with sophisticated weapons to ward off forestry officers. As a result of this, it has been very difficult to call for an arrest.

The forest reserves at the Atiwa district falls in the jurisdiction of the Mpraeso and Kibi Forestry division of the Ghana Forestry Commission. Although indiscriminate dumping of refuse was deemed the third most destructive environmental activity in the Akyem Abuakwa traditional area, its impact has been overshadowed by the magnitude of environmental degradation caused by both mining and logging.

5.7.3 Effect of environmental degradation on livelihood

The human and cultural factors which necessitate values, norms and religious practices are here compromised. A vast farm land at Osino, Ankaase, Kyebi Apapam, Akwatia, Akyem Akropon, Abomoso, Asamang Tanfoe, Sankubenase, Akyem Mampong, and Morso, for economic reasons of gold and diamond extraction, have been ravaged. These sites confirm the fact that, human and cultural factors which are central to development discourse are now supplemented by economic determinism.

The people in the Akyem Abuakwa traditional area considered lack of potable water supply as the most effect the communities are grappling with. Low food production and the higher cost of food items were deemed the second challenge as far as degrading effect on environment is concerned. Respondents further claimed to have been confronted with poor health and increased level of poverty due to environmental degradation in the area.

5.7.4 Lack of Potable Water Supply

As much as the Akyem Abuakwa traditional area is predominantly a farming community any factor that impinges on their land and natural resources may negatively affect their living standard. As the above statistics has shown, a majority of respondents in the study claimed being affected badly in the area of potable water. It is believed that, Atiwa forest in Akyem Abuakwa harbours one of the healthiest and most important ecological systems in the world, with the “headwaters” of four important rivers in the country; Densu, Birim, Supon and Ayensu, which are essential sources of domestic, agricultural and industrial water for local communities and many of Ghana's major population centres, including Accra. Yet, illegal logging in the forest is affecting these water sources and unless something drastic is done to deter perpetrators, potable water supply to beneficiary communities will be a thing of the past.

Again, River Birim which used to be the major source of potable water to the Akyem Abuakwa communities, has now been polluted by mining activities and that, the tributaries have all been affected. In communities like Edwenase, Kade, Kusi, Abompe, Abomosu and Ankaase people now depend on either Boreholes or Sachet water supply as an alternative water sources for their household chores. However, how many of the residents, both young and old, may have the financial strength for daily Sachet water supply? The water situation seems to have increased the level of anxiety and poverty in some communities.

5.7.5 Low Food Production and High cost of Food items

Low food production and the higher cost of food items were deemed the second challenge as far as degrading effect on environment is concerned. Many respondents believe that, significant arable land has now been ravaged by mining operators. It was observed that, sometimes cocoa plants, citrus plantations, plantain and cassava farms are cut down or uprooted to make way for mining activities. Whilst this factor appears prominent, there may be some other remote dynamics which have also contributed to low food supply and high cost of it. Two reasons, other than the destruction of arable land and crops, have also been observed. Firstly, many of the youth in these communities no longer have interest in farming work. They claim that, it takes too long a time to sow and harvest. These youth rather look for opportunities that offer higher returns in the shortest possible time.

Secondly, sudden population growth has been identified as a possible cause of food shortage and high cost of food items in these communities. The sudden influx of jobless young adults who have often engaged themselves in all sorts of jobs, ranging from – petty trading, fast food vending, construction work, to barbering and hair dressing in the mining communities is a clear indication of the level of unemployment in the country. Respondents were unanimously of the view that, the sudden population growth has affected the level of demand

for many food items. Prices of food items have soared up in communities where the supply of these commodities is trailing the demand for it. However, many respondents believe that, the situation will be short-lived particularly, when these mining activities are over. Indeed, to produce enough food to feed the increasing population requires large farm lands and many active hands that desire to work.

5.7.6 The level of Poverty in the Mining Communities in Akyem Abuakwa

As regards to the level of poverty among the residents of the mining communities, it is viewed that their situation has worsened considerably due to a number of factors we shall discuss. The level of poverty and unemployment in the Akyem Abuakwa Traditional Area and how it relates to the environment is given a thoughtful consideration in our analysis. Our discussion on poverty vis-a-vis the environment would be guided by three fundamental questions of: Firstly, what is the level of poverty in Akyem Abuakwa like? Secondly, do natural resources make a significant contribution to the real income earned by the poor in the short, medium or long term in Akyem Abuakwa? Thirdly, are the risks faced by the poor affected by a decline in the quality or quantity of natural resources?

5.7.7 Is the Farmer/Landlord Victim or Agent of Environmental Degradation?

It has been observed that, the poor farmers and landlords are both the victim and agents of environmental degradation. On one hand, the poor are victims because their decisions, as to what they do or don't do, are based on limited information they have on land and natural resources management; and they have also operated within a given legal policy or framework which often than not, have rendered their Allodia title hopeless. On the other hand, the poor

could be considered as agents of environmental degradation because they themselves give out parcels of land, for financial rewards, to the galamsey operators. Many landlords at Ankaase and other communities in the Akyem Abuakwa have willingly leased out parcels of land to unlicensed miners and are consequently facing food and potable water shortages not to mention many social vices they would have to endure.

The level of poverty in our context of engagement does not emanate from tribal wars as it persists in some African countries; to a certain extent, in Akyem Abuakwa, it is the unfortunate destruction of the environment which has rather given credence to poverty. The role played by poverty in this endeavour is significant, had it not been for poverty no landlord would, in the first place, lease out parcel(s) of land, and farm lands to these miners. The same is the case for timber lumbering activities; some landlords allow the destruction of farms, rivers, and vegetations when chain saw operators are allowed to cut down trees. In responding to the question on why landlords and farmers tolerate the destruction of their crops by these timber merchants and chain saw operators, it was deduced that certain amount of compensation is often offered to the landlord for land. In a more strategic scenario, traditional leaders have deliberately allowed the logging activities to commence from their land. By this move, landlords and farmers in the community are intimidated to resist or frustrate these timber merchant.

5.7.8 The worth of Land and Natural Resources and Rural folk

The inquiry into whether natural resources make a significant contribution to the real income earned by the poor in the Akyem Abuakwa area is appropriate. The compensation received

from leasing out these parcels of land has often been invested in the renovation of “family house” and in profligate funeral ceremonies among others. In view of the fact that, monies realised from the lease are not invested in profit generating ventures, in a situation where farms and farm lands have already been ravaged, the vicious circle of poverty indisputably becomes a real challenge. In the Short term, landlords appear financially sound and independent however, the long term effect on their living condition is disappointing. Observation has shown that galamsey activities breed laziness. Few of the communities where mining operations have ceased, the youth in particular have been left stranded; they may have been left with little or no employable skills for alternative vocations. Such situation leads to laxity, laziness and poverty.

5.7.9 The worth of Land Regeneration and Rural folk

It has further been observed that, when land and its resources are ravaged it takes about 25 years or more for regeneration to take place. Therefore, the State, traditional leaders, and vigilante groups should pursue miners and insist that they refill pits and trenches. In as much as refilling of mining and sand wining pits and trenches endeavour to redeem the land, it is indeed a half-way solution of the entire regeneration process. In places like Akwatia, the erstwhile Ghana Consolidated Diamond Limited, refilled most of the pits and trenches but, because it was not well compressed, years of torrential rainfall and sunshine have exposed the structural weakness. Many of such pits and trenches have caved in thereby posing challenges to farming activities. Land degradation therefore brings about poverty, hunger, poor health which seems to have the propensity to destroy the social fabric of many communities. It is therefore worth noting that, the risks faced by the poor are often affected by the decline in the quality and/or quantity of natural resources.

5.8 EFFORT TO ADDRESS ENVIRONMENTAL DEGRADATION

It is one thing giving a talk on environmental degradation; it is yet another when real workable efforts are made, not on a paper but, in the communities to address environmental degradation.

5.8.1 Individual and Communal Efforts to Addressing Environmental Degradation

Efforts so far made to address environmental degradation, as one observed, in the communities could be divided into personal, communal, and corporate. On the situation of personal efforts, individuals who have rendered such services have often done so in their own expense. A respondent, Samuel Twumasi the Catechist of the Presbyterian Church and an opinion leader of the Edwenase community, literally, sacrificed his time and resources as part of his effort to preserve the environment. He also claimed to have been ready to sacrifice his life for the prevention of illegal mining activities. On other instance, the chief of Heman in collaboration with his subjects seem to have resisted every attempt of the timber merchants who sought to fell all *Ceiba pentandra* (onyina) across his topography.

It does also seem that, the issue of environmental degradation and the effort to address the menace should be well coordinated otherwise, efforts will be fruitless. For, perpetrators of mining and lumbering activities seem bold and recalcitrant. Every attempt by Okyenhene and Okyeman Council to forestall environmental degradation in the Akyem Abuakwa for instance, was rendered futile as perpetrators kept to their ruthless act.

5.8.2 Corporate Agents and Efforts to Address Environmental Degradation

Most respondents at Akyem Abuakwa are aware of the three main regulatory agents of the environment, namely, The Environmental Protection Agent (EPA), The Forestry Commission

(FC) of Ghana, and the Okyeman Environmental Task Force (OETF). Whereas the domestic mission of the EPA of Ghana is to co-manage, protect and enhance the country's environment, the Forestry Commission is responsible for the regulation of utilization of forest and wildlife resources, the conservation and management of those resources and the coordination of policies related to them (Service charter, The Forestry Commission of Ghana, May 2012). The Okyeman Environmental Task Force is however sandwiched between the EPA and FC.

5.8.3 Environmental Protection Agent of Ghana

The EPA's presence was not felt at the mining communities visited except by mere name. However, looking at the height and the extent of mining activities and the unorganised nature of their operations, could it not be that the presence of the EPA would amount to nothing? The FC and the EPA embodies the various public bodies and agencies, such as the Forest Service Division and Environmental Quality Department, in collaboration with other departmental staff to perform. However, it seems the EPA is somehow comfortable and is effectively operating in mining companies such as, the Newmont Ghana Gold Limited. In this regard, the smaller mining entities and the galamsey operators have been allowed to do their own thing. However, the question that seems to confront us is that, how far in the future should people and institutions be allowed to destroy the environment with impunity, and what kind of policy is needed to help curb this menace in Akyem Abuakwa?

5.8.4 Forestry Commission of Ghana

Unlike the EPA, the forest guards are often seen at the communities. The Atiwa district alone has three clusters of reserved forest of Atiwa, Abomosu, and Asunafo. It is ironic however, to state that, the presence of the forest guards do not stop for instance, the chainsaw operators from illegal logging. It was observed that, a couple of factors have contributed to this development. Firstly, it may be that, some forest guards have compromised. It appears there is unprofessional relationship between some guards and the timber merchants so that some chainsaw operators have been permitted to cut down trees. A chainsaw operator in one of the communities affirmed this; he argued that, often monies are given to the guards for favours. It was also observed that, some of the chainsaws are owned by the forest guards themselves; could this not be a conflict of interest? How can the FC avoid this kind of situation? Once the integrity of forest guards is compromised, illegal timber merchants will be free to operate even in the forest reserves.

Secondly, some chainsaw operators are members of a clique whose sophisticated weapons, logistics, and strategies have either warded off forestry stewards or outwitted them. If these perpetrators could even operate in the mid-night, what else can they not do? Some honest forest guards have often been tagged as an enemy by these illegal chain saw operators, a situation that instil fear and discourages hard working. The Persistence of this condition has permitted an estimated 90 percent or more of Ghana's high forest logged since the late 1940s, what should we do? It is said that, the rate of deforestation is 5 percent in off-reserves and 2 percent in on-reserves. The off-reserves have been seriously degraded and fragmented to less than 5 percent of the forested area 83,489km. The current deforestation rate is about 22,000 hectares (ha) per annum. In view of this, the EPA has observed that, Ghana may face future

export deficits and there is the likelihood that the country's forestry sector will die out (<http://www.fcghana.com>).

5.8.5 Okyeman Environmental Task Force

The third body is the Okyeman Environmental Task Force which was instituted by the Okyenhene to address those evils perpetuated against natural resources within the confines of the Akyem Abuakwa traditional area. The task force has often collaborated with the Ghana Police Force to execute their duties. Unlike the FC and EPA of Ghana, the Okyeman Environmental Task Force (OETF) is an institution that lacks total legal framework and authorisation from the Central Government. It has a limited team of personnel and logistics but a wider scope of coverage to operate. Akyem Abuakwa stretches from the Basin of Densu River at Adoagyire and ends at New Jejiti. The Eastern side shares boundary with the Kwahu's, Krobo's, Akuapim's, and New Juabeng. The Western boundary goes as far as Awutu and Assen beyond the River Pra.

It was observed that, the OETF's effectiveness has been challenged by the wider nature of their operating field. Had the Okyeman Environmental Clubs being instituted in many towns and schools within Akyem Abuakwa survived, it would have been an alternative scheme to promote public education on environmental issues within the traditional area and beyond. Unfortunately, these clubs never saw the light of the day. The OETF should be equipped and strategised for a better output of performance, to this end, their presence seems less intimidating to perpetrators of environment ills.

5.9 RELIGIOUS BODIES AND ECOLOGICAL DEGRADATION

The analyses focus on the three main religions practised by the residents in the Akyem Abuakwa Traditional area namely, Christian, Islamic and the Traditional religion.

5.9.1 Traditional Religion and Cultural Practices in Akyem Abuakwa and

Environmental Sustainability

As in many tribes in Ghana, tradition and religion in Akyem Abuakwa are interlaced; so connected are they that one cannot speak a traditional language or act in gestures without acting religiously. It is therefore useful to take a critical look at our environment vis-a-vis development from this perspective. Often Africans are perceived by many as a people group bound by retarded traditions and cultural practices. Indeed, it is only the negative aspects of the cultural practices, and not the underlying wisdom, which have been captured and projected by such observers. In other words, they have perceived these traditions and cultural practices as stumbling blocks to our development. A critical observation however reveals otherwise, African proverbs and myths, festivals and values, and many other norms and practices have in the past served as a sturdy agent of sustainable development. The challenge today is how we can fashion these cultural norms into more useful developmental agents in our current cultural milieu.

5.9.2 Cultural Heritage of the Akyems and the views of Mmirrikkissi Okasum Apori

Atta II chief of Heman

It needs hardly stressing that, the cultural heritage bequeathed the people of Akyem Abuakwa embodies scientific knowledge of preserving the environment. In our interview with

Mmirikkissi Okasum Apori Atta II chief of Heman, he stressed that in his community sacred groves are reserved and have since been kept intact from all interferences. No one is permitted in there except for ritual performances. It was observed that, the *Mpanin dae or Eban mu* (Royal Mausoleum) and *Konabamoa* the *nsu bosom* (river deity) of Heman are sacred groves with priceless amount of timber, gold and diamond in commercial concentration. However, it does seem that, the groves are the abode of the river deity and their ancestors, therefore any compromise will arouse their anger. Apori Atta, among his peers, appears to have practised a developmental drive devoid of any environmental pollution. It was noted that, his use of natural resources is in tandem with the concept of sustainable development. Consequently, development is not about the destruction of culture and religious values; rather, development should appreciate religious values and cultural practices.

5.9.3 Sacred days, Taboos and significance

Through the acceptance of religious beliefs and practices farmers, hunters and fishermen within the confines of Akyem Abuakwa could neither visit their farms nor attend to any duty in the forest on Tuesday. Again, one is forbidden to visit a farm or enter a forest during the Ohum festival. Indeed, such occasions forbid Miners and Chainsaw operators from noise making activities, for it is sacrilegious. These sacred days are to give nature – land, rivers, and animals – a period of rest and to replenish its stock. Farmers, hunters, and fisherman also get a period of rest to socialise. Therefore, these religious practices were instituted for a purpose; *nananom* (traditional leaders) collaborated with deities for such prudent schemes that would permit sustainable environment.

Again, the people of Akyem Abuakwa believe in taboos that require that farms are not planted at a point close to water heads or source of streams or rivers. This is culturally explained as a taboo against the river deity, but we have realised that, it is a measure to protect the river from exposure to the sun and eventual drying up. Today however, River Birim which is the main source of potable water supply for the people hence the appellation, “*Akyemkwa a ɔnom Birim*”, (A native of Akyem undoubtedly drinks from the Birim) has been ravaged. Trees and sacred groves which used to protect the river and fish stocks have all been destroyed.

5.9.4 Traditional leaders and Religious inclination

Are traditional leaders guiltless, and could they not be held responsible for the destruction of land, sacred groves, rivers, and forests? Paradoxically, it has been said of many traditional leaders as holding land and natural resources in trust for the people? Whereas in practice, it appears these resources are held in trust for themselves (traditional leaders) and their immediate ancestral line of family rather than their communities. Many of the traditional leaders appear to have utilised land and its resources and are failing to account for their stewardship. Today however, there is a growing concern of the need for these leaders to render account of their leadership to their communities, a course to chieftaincy dispute.

Personal observation reveals that, degradation of the environment is a reflection of the attitude and religious inclination of this generation. The people of today are not scared of the strange myths that shrouded the taboos and this might explain why they could destroy the environment with impunity. It could be argued that, the advent of Christianity and Islamic religions may, to some degree, be blamed for the damage done to the Traditional religion and

cultural practices. It needs hardly stressing that, our religious and traditional beliefs and practices alone may have the propensity to preserve the environment in a sustainable manner.

5.9.5 Christian and Islamic Religion in Akyem Abuakwa and Environmental Sustainability

It was observed that, a large number of people in the Akyem Abuakwa traditional area are involved with religions, and we are particularly in this section considering the Christian and Islamic religions. Like many other religions, the moral authority acknowledged in theory, practised as life principle, is significant in the sustaining of the environment. To this end, the Church/Mosque may be considered as the agent of change in the ongoing environmental degradation saga. In Akyem Abuakwa, the environmental crisis is increasingly manifesting that, whatever policies or structures that were put down by the Forestry Commission, Environmental Protection Agency, and Okyeman Environment Agency or by any other body, have failed to yield the expected result. This is as a result of human recklessness; farm lands are ravaged, forests and fisheries are being depleted, water bodies are becoming polluted and also dwindling.

5.9.6 The level of Christian/Muslim environmental concerns

Evidently, not much has so far been done by the Churches/Mosques in the Akyem Abuakwa traditional area to rectify the degradation challenges. That notwithstanding, when the question of religious bodies' involvement in forestalling ecological degradation was posed, 71% of respondents believed that the religious bodies are actively involved. In ones view however, this percentage can be deceptive since the rate of involvement may be skewed and varied with communities. With the possible exception of Edwenase, where the Christians there led a campaign against a move that would have polluted their land and water bodies, in

the rest of the communities the Church/Mosque have either embarked on Tree planting, clearing of bushes and/or silted up drainages. Whereas such activities may be significant in terms of environmental sustainability, it seems the Church/Mosque has the capacity to do more.

The issue of churches/mosques going out to aid natural disaster victims is appropriate but at the same time questionable. Why would these religious institutions keep quiet over the very acts that facilitate environmental disaster? Why would these religious institutions not organise civic education on the environment for their congregation and communities, since knowledge is power? Why would they not embark on environmental crusades against perpetrators and create a wider sensitisation platform for the communities to exchange ideas? Churches/Mosques should rather tackle those factors that have precipitated the occurrences of natural disasters, for prevention is better than cure. If the religious bodies could help to prevent illegal mining, logging, sand winning activities among others across the landscape of Akyem Abuakwa, the perennial flooding which affects many towns and villages, for instance, will stop. To this end, there shall be no grounds for aiding any disaster victim, for there would be none.

5.9.7 Religious training and environment

Respondents believe that, Christian and Islamic leaders are respectable people in the society; they are also educators and opinion leaders who are listened to by many. It is therefore the case that, their knowledge of the environment and its sustainability will be significant for onward promotion of the environment. As one can succinctly put it, a knowledgeable pastor has knowledge on offer, but an ignorant pastor has ignorance on offer. Some respondents (Christians and Muslims) have agreed that, some of their leaders are ignorant on matters of

the ecology and sustainable development consequently, they neither preach it nor encourage their congregation to embark on environmental campaigns. Whereas religious training may seem expensive and time consuming, it is nonetheless better than ignorance. As mentioned earlier in the study, a course on environment and sustainable development has been agreed by many respondents to be included in the academic curricula in the training of the religious leaders

5.10 TRADITIONAL AUTHORITY AND THE ENVIRONMENT

Most respondents have suggested that, traditional leaders were conscious of the persistent damage their environment has suffered and that, measures to addressing perceived damages have been put in place. Yet, the impression of the field clearly presents a different picture; observation made in the communities was rather that, traditional leaders have lost control over environmental sustainability. Although, many of the traditional leaders in Akyem Abuakwa are aware of factors that have contributed to environmental degradation, they have done little or nothing to prevent brutality unleashed on the environment. As declared by Apori Atta, chiefs are custodians of the trust bequeathed them by their ancestors and it thus behoves them to protect it. Yet, many of the traditional leaders have failed to protect the environment through the traditional laws such as, one not farming near rivers/streams or not logging close to a river. In some communities, traditional leaders are unable to resist perpetrators because they are themselves liable for the environmental pollution.

5.10.1 Osabarima Mmirikkissi Okasum Apori Atta II chief of Heman

Osabarima Mmirikkissi Okasum Apori Atta II is considered by most interviewees as an environmentalist, a model whose enviable stance on the protection and projection of

environmental sanity is worth emulating. The Chief's firmer stance on sustainable environment does not permit any activities that contaminate water bodies; that deplete the rain forest of its trees; and that ravage the earth through mining activities that subsequently will deny farmers of their livelihood. Many residents of the mining and logging communities in Akyem Abuakwa seem to have despised the fact that, it takes about twenty five years for a ravaged land to regenerate. Consequently, the opportunity cost of the people not having arable land for cultivation is the mining activities they have given in to.

Some people think by extracting gold or diamond from the arable land and river bed, and by logging every single tree from the forest so that, water sources are exposed to direct sunshine, their living standard will improve. Personal observation reveals rather that, it is the other way round; repercussions of such practices are often huge. In the light of foregoing, Apori Atta claimed to have resisted the policy that permitted the felling of *Ceiba pentandra* (Onyina) across the Akyem Abuakwa topography. Why would he have resisted a move he knew it could have rewarded him financially. The Chief really perceived *Ceiba pentandra* as the only strong tree left in the forest (all others have been logged) to help contain windstorms and so it would have been suicidal if he had allowed its destruction. Respondents mentioned among other factors that, the Chief has established a good rapport with his subjects and that seems to have made possible regular interactions and social education on issues pertaining to sustainable development. It could be inferred that, Apori Atta has posterity at heart; an inspiration which is helpful in the conservation of the environment. By words and deeds, Apori Atta has proven that water is life and that there is no substitute for potable water. Be that as it may, water bodies of Densua and Akerasu, the only streams left for the use of household chores, are being preserved for posterity.

It could be said that, lack of reverential fear, for traditions and practices, myth and mystical elements within the culture, have contributed to the environmental menace in the traditional area. Baffour Amoa Asare admits that, *ene nipa nsuro ades, wɔhwɛ nea yɛnhwɛ na wɔpɛ ntɛm kɔ nea yɛnkɔ* (People these days have the courage to enter forbidden places and they do so with impunity). One is sometimes surprise about why brutalities are unleashed on sacred groves, rivers, mausoleums, and forests and yet, ancestors, river and tree deities have kept silence over the situation. Can it be that ancestors are at rest or have lost their powers to act or react?

5.10.2 Impact of Prudent Traditional Leadership on Environment

Virtually, every community in Akyem Abuakwa has traditional leaders who seem to steer the affair of the community. The question of prudence lies in the reasonable leadership skills one adopts. Whereas one leader may allow the want of financial gains to determine the fate of an entire community, another may put the wellbeing of a community ahead of his personal gains. In any case, traditional leaders should understand and pursue sustainable development as oppose embarking on development spree which comes at the expense of everything else in the community. For instance, mining regulation in the country states that, exploration could only be done 200 feet away from a river source or basin. Therefore, traditional leaders who care about the environment and are prudent have insisted that miners obey this regulation. Unfortunately, miners have always failed to comply because they are aware that, in Akyem Abuakwa precious minerals are mostly found either in the river basin or along the river banks.

Respondents believe that, the egocentric approach of many traditional leaders is immoral since their attitude has led to the destruction of lives. From the perspective of holistic or

integral human development, development should meet both material and the non-material needs of a community. In the light of foregoing, it should be emphasised that, any leadership model which frowns on healthy ecology but projects development, is showing total rejection of nature as something to exploit.

5.11 THE TRADITIONAL LEADERSHIP AND STOOL LAND ROYALTY

Presently, traditional leaders have no authority over the revenue generated from their stool lands. From the initial pre-colonial 100% royalty payout, it was reduced to 62.5%. Nananom now receive a further reduced share of 20% of the stool lands revenue. It seems royalty pay-out to the traditional leaders by the Central government does not and cannot sustain the huge expenditure of the traditional council. A respondent affirmed the observation and claimed to have disregarded his share of royalty for some time now since the money involved is insignificant. Could it be that some traditional leaders have acted recklessly on the use of land and natural resources due to inadequate royalty pay-out?

5.11.1 Environmental degradation in relation to quantum of royalties

As regards the question on a relationship that possibly exists between environmental degradation and the quantum of royalties received by the traditional authorities, a respondent debunked such a notion. Observation reveals that, a reduction in the amount of royalty payout does not necessarily motivate traditional authorities into allowing illegal activities and consequently, environmental degradation. On the contrary, an increase in the amount of royalty payout would not significantly inspire prudent nature management. Many respondents have, however, accused Nananom for failing to act as credible custodians since in some communities they have rather engaged in secret negotiations with perpetrators. Furthermore,

whereas minerals underneath the land are for the Stool and Nananom, it was again observed that, the Central government has the sole right to grant permit to prospective miners. Therefore, Nananom (traditional authorities) are not permitted to authorise mining. Such legal framework renders Nananom helpless and makes it difficult, if not impossible, for them to control illegal activities that destroy the environment.

5.11.2 Land Tenure Laws and Practices in Ghana

It is worth noting that, many of the land owners are illiterate or semi-literate who have difficulty in understanding land title laws of Ghana. For many of them, reading the law alone is complex enough, let alone interpreting them in practical terms. Managing these laws to ensure land tenure security for all levels of society has been a formidable challenge to Ghana's legal system. These difficulties are real and are persisting in many participating communities of this study. Many of these poor and vulnerable land owners and farmers have occasionally accused their traditional leaders for hatching schemes that have often robbed them of their Allodia right. The traditional leaders on their part have put the blame on the State whom they accuse of having imposed the constitutional right on the Stool. For example, Ministry of Lands and Natural Resources have often leased out parcels of land to Mining Companies for exploration and extraction regardless of the resistance faced. It can be observed however that, landlords are gradually losing their right of appeal to the Central government.

The landowners therefore understand their right as having complete and absolute freedom in dealing with the land. Consequently, any time the State overrules the landowners' right, although, the State has often given out compensation packages, the landowners are

disconcerted. For instance, some land owners and farmers in the Birim North District of the Eastern Region, although compensated by the Newmont Ghana Gold Limited, have frowned over the State order that has taken away their land. Even though the company has added some value to the living condition of the residents, others whose lands have been taken away from are counting their losses, for they no longer have farm lands and cash crops.

Conservative estimates suggests that, agriculture employs about 75% of the total working population of the country; but with Cocoa alone contributing about 45% of Ghana's Gross Domestic Product (GDP), it is unfortunate that land owners and farmers views are not considered when it comes to the allocation of mining licences. Whereas compensation packages given by the mining companies to land owners and farmers may last for a moment, cocoa trees and harvests may endure to over fifty years. In ones view, landowners should have the right to decide on the fate of their land. Unfortunately, some landowners are themselves guilty of leasing out lands for rewards. Communities like Ankaase, Asikam, Akanten, Kobriso where such rights have been exercised the environment has been unduly degraded.

5.12 FUTURE ENVIRONMENTAL CONDITION OF AKYEM ABUAKWA

Akyem Abuakwa has traditionally been known as "Kwaebibirim" which reflects the greener nature of the topography that is, virgin forests, several rivers and streams, and the abundance in rich natural resources. Generally, there are about 48 Forest Reserves in the Eastern Region, including the Atiwa range forest, Ajenua Bepo, Alema, Apapamu, Abomosu, Sekyase and Kwei Asunafo, Karu, which have also been assaulted by illegal activities. Many of these forest reserves are found in the Akyem Abuakwa Traditional Area. The Forestry Commission

reports that, 40% of the total area of 176, 960 hectares of Forest Reserves has been degraded, not only by illegal mining, but by illegal logging and encroachment by farmers (Kudom-Agyemang, March 2012). Personal observations during field visits at Akyem Abuakwa reveal that, farm lands, forest reserves, sacred groves, rivers, and habitat of other life forms are being besieged by illegal mining and logging activities, land encroachment, and sand winning contractors. The enormity of destruction inflicted on nature seems unimaginable and it is a striking indictment of the people's perception that, nature belongs to no one. One is therefore not surprised that, River Birim and its tributaries, for instance, have all been rendered undrinkable in Akyem Abuakwa.

Atta-Twum, the Atiwa District Chief Executive alleged that, illegal mining and logging have taken over their land and forests. The magnitude of these environmental challenges is such that, resources of a district or a traditional area might not be enough to address it. What can be done then? Soldiers are occasionally called in to beef up the effort made by forestry guards and perpetrators do not seem deterred by even that. Perhaps, the Central government should take up the responsibility to flush out these criminals.

The chief of Heman observes that, illegal mining and logging are done with impunity and made further suggestions of finding ways and means to protect these priceless natural resources themselves. Would it therefore be appropriate to suggest that Forest Reserves and land resources should be returned to their traditional owners (Stools and Skins) who gave them out to the Central government? From ones outlook, the Forestry Commission and other bodies have appeared to be failing in their stewardship role since the forests and land resources continue to be encroached and ravaged by perpetrators. For instance, the slash and burn attitude of some farmers coupled with hunters of "bush meat" cast a gloomy picture on

the future environmental situation in Akyem Abuakwa. From another perspective, some traditional authorities are by their actions and inactions guilty of environmental abuse. It is alleged that, money and Alcoholic drinks are often being given to them in secret otherwise there was no way perpetrators could operate on their stool lands with no one calling for their arrest.

Evidently, significant percent of rivers or streams sources are found in these degrading forests therefore, unless prudent management measures are put in place to protect these rivers, Akyem Abuakwa will soon suffer unsustainable water supply. According to the District Forestry Officer, Simon Liyab, the “galamsey” operators have invaded the Atiwa range and with an excavator, they have destroyed portions of the forest along the Birim River in order to extract the gold deposits there. The river, which takes its source from the range, was also affected (Kudom-Agyemang, March 2012).

On the question of future sustainability of Akyem Abuakwa environment, 67% of respondents answered “no future”, and said environmental degradation is worsening. This implies that, more and more farm lands, forest, rivers and streams, trees, species of plant, butterfly, bird, and large mammals are in danger of extinction because of illegal mining, logging, hunting, sand wining, and bad farming methods and practices.

The Regional Forestry Manager has said that, forestry officers had been overwhelmed by these illegal activities due to factors such as low staff numbers and low morale. He however argued that, new forest guards have been recruited to intensify range patrols, boundary clearing and maintenance. Perhaps, the revitalisation of the collapsed Community Forest Committees and Community Biodiversity Advisory groups could help protect the forests and the environment in Akyem Abuakwa.

To this end, it is encouraging to note that, the guards are getting the cooperation of the community members, such as those providing information about illegal activities in the Reserves. This attitude could be attributed to the realisation of the potential dangers including shortage of raw materials, extinction of non-timber forest products, environmental degradation and water scarcity that they might experience once the forests are depleted. It is observed that, resources of personnel and logistics mobilisation against these criminal activities is critical and paramount at this point in time. Atta-Twum's statement, "We are all doing our best but it is a losing battle for now" is a vivid picture of the state of the environment in Akyem Abuakwa.

5.13 INTERPRETATION OF RESPONSES

The study points out that, environmental degradation in the Akyem Abuakwa Traditional Area is real. A critical analysis of the responses received seems to suggest that Akyem Abuakwa topography is in crisis. Whereas illegal mining (galamsey) activities are taking over farm lands, cash crop plantations and have invaded the forest reserves, legal and illegal logging activities on the other hand are reducing bio diversity forests into mere bushes. These are the major causes of environmental degradation which appear to have ignited a widespread degradation menace in Akyem Abuakwa.

There are growing concerns about the future farming activities in some communities and shortage of potable water supply in most of these communities. The only river (Birim) that has many tributaries in the traditional area is polluted by the illegal mining activities. Views gathered indicate that, the presence of the Forest Guards, Environmental Protection Agents, and the Akyem Abuakwa Environmental Task Force is not enough to prevent perpetrators from degrading the environment. This seems to suggest that, neither district nor traditional

area has the ability in terms of personnel and logistics to curb the degradation challenge. Perhaps, Regional or Central government might have to initiate a strategy to help end environmental degradation in Akyem Abuakwa.

Again, the study appears to confirm the notion that, all major stake holders of traditional leaders, land owners with Allodia right, and the Ministry of Lands and Natural resources are responsible and deserving of blame for having, in one way or the other, giving land and natural resources out for exploitation. Traditional leaders have been accused of holding land and natural resources in trust for themselves instead of the community they represent; similarly, the Central government has also been issuing mining and logging allocation licence to prospects without a prior discussion with the land owners and farmers.

To this end, short, medium and long term poverty is likely to affect the lives of the residents in these communities. Many of the land owners and farmers especially have been denied of their livelihood through a loss of farms and farm lands. Whereas the commercial viability of a Cocoa plant for instance, could survive to twenty five years and over, lump sum compensation packages that are often given to the farmers are too small to sustain them in the medium and long term. In a similar vein, traditional leaders have argued that, they no longer have authority over the revenue generated from their own lands. From the initial pre-colonial hundred percent (100%) royalty payout to nananom, they presently receive a paltry share of twenty percent (20%) of the stool lands revenue. Both Nananom and land owners point an accusing finger at the Central government land title laws.

The study reveals that, the future environmental condition in Akyem Abuakwa does not look bright in that, perpetrators continue to ravage land and other natural resources. The Forestry Commission reports that, 40% of the total area of 176, 960 hectares of forest reserves has been degraded through illegal mining, logging and encroachment by farmers. It is worth

noting that, the forest guards are getting the cooperation of the community members, such as those providing information about illegal activities in the Reserves.

In the attempt to find solution to this mess, the traditional pattern of conservation has been recommended. African proverbs and myths, festivals and values, and many other norms and practices have in the past served as a sturdy agent of sustainable development. Although shrouded in frightening stories and myths, it has in the past, scared perpetrators away. What about today? It may be suggested that, the degradation of the environment reflects the attitude and religious inclination of this generation since people are no longer afraid of the taboos and the consequences that associate with them.

Christianity and Islamic religions have sometimes been blamed for undermining the traditional religion and cultural practices. However, our observation reveals that, not much has so far been done by the Churches/Mosques to rectify the environmental challenges in the communities. It is worth reminding the Church/Mosque in Akyem Abuakwa of the central concerns of the Earth Charter that captures the six values for human-earth relationship: reverence, respect, restraint, redistribution, responsibility, and renewal. The Church/Mosque should not embark only on afforestation and desilting of drainages but should as well, promote the values of human-earth relationship. The attitude of Christians at Edwenase, who openly stood against any form of degradation, is worthy of emulating. Again, since religious people are found in every community, facilitating good environmental practices through them will perhaps help stop environmental degradation in Akyem Abuakwa.

5.14 CONCLUSION

It could be inferred that, the field study and analysis have brought to bear factors that causes environmental degradation in Akyem Abuakwa. The respondents have acknowledged the fact that, the two cardinal causal agents are mining and timber logging activities. Many lives have been affected by poverty, food shortages, lack of potable water supply, perennial flooding, and loss of bio diversified forests among others. Efforts mentioned by some of our respondents suggest that, they have the desire to forestall and restore the degraded environment. The discussions have also brought to the fore the fact that ecological degradation is real in the Akyem Abuakwa area. It is believed that, the religious bodies, the Central government, the traditional authorities, and the civil society have to extent contributed to the degradation of the environment. Perhaps, Akyem Abuakwa should begin to pursue a model of development which will recognise ecological sanity.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATION

6.1 INTRODUCTION

In this chapter, the summary, conclusions and recommendations drawn from the research are presented.

6.2 SUMMARY AND ISSUES EMERGING OUT OF THE STUDY

The study is aimed at investigating the interplay of religion, ecology and sustainable development in the Akyem Abuakwa traditional area. Against this background, six different sets of questionnaires were given to 95 respondents in selected communities in Akyem Abuakwa. Additionally, a number of individuals were engaged in one on one interview. The following questions guided the study:

- i. How is Sustainable Development understood by the inhabitants of Akyem Abuakwa and how has it been practiced?
- ii. What are the factors that have given rise to environmental degradation in Akyem Abuakwa and how can it be forestalled?
- iii. What is the extent of ecological degradation in the Akyem Abuakwa traditional area, and how has the traditional leaders participated in the healing or otherwise of the ecology?
- iv. What advocacy role have the religious bodies played in addressing environmental degradation in the Akyem Abuakwa traditional area?

The study has revealed that, environmental degradation in Akyem Abuakwa traditional area is real and that, the people are aware of the causes. Illegal logging and mining have been identified by the people as the most degrading causes of the environment. The research

depicts that, degradation is still on the rise and has gotten out of control. Whereas illegal operators seem to have maximised profit, the residents of these communities are left to suffer the consequences of the ravaged land and environment.

The study discovered that, arable lands, cash crop plantations, river bodies have fallen victim to the illegal activities in the area. It was observed that, the Atiwa forest range alone supports four river systems namely, Birim, Densu, Supon, and Ayensu and also has mineral deposits of gold and bauxite. No wonder Okyeman is suffering from potable water supply, river Birim, which used to be the major source of potable water, has now been polluted with filth and chemicals from mining and logging activities and that, its tributaries have likewise been affected. In many of these affected communities, Edwenase, Abompe, Abomosu, Kusi, and Ankaase, people are now depending on either Borehole water or Sachet water as alternative sources. Apart from the above effects, environmental degradation has also affected food production and cost of food items in these communities. The reasons giving for this shortage was that, arable lands which hitherto were for crop cultivation have been ravaged through mining activities, cocoa farms have also been destroyed leaving the country rather worst off; the youth are no longer interested in agriculture; and the sudden influx of population in these communities. Furthermore, health situation and the level of poverty among the residents were also identified as some of the repercussions following environmental degradation in Akyem Abuakwa.

It was further discovered that, efforts made to addressing environmental degradation have been personal, communal, and corporate. Whilst the personal is the effort of an individual; and the communal have been the effort made by say, a chief and his subjects; the corporate effort are the contribution made by Environmental Protection Agent (EPA), the Forestry Commission (FC) of Ghana, and the Okyeman Environmental Task Force (OETF). However, these agencies should be well equipped and strategised for a better output of performance. To

this end, their presence seems less intimidating to perpetrators of the environment. Often, the perpetrators are well equipped to fight or kill persons who try to obstruct them.

The research has also focused on three religious institutions in Akyem Abuakwa namely, Christianity, Islamic, and the Traditional religions. It was observed that, African proverbs, taboos, myths, festivals and values, and many other norms and practices have in the past served as a sturdy agent of sustainable development. Today however, these practices have lost that due reverence of the past. The observance of sacred days, festival, and taboos that, in the past were instituted for nature preservation have lost their significance hence, the destruction of the sacred groves in particular and the environment in general.

It was further revealed that, the advent of Christianity and Islamic religions might, to some extent, be blamed for the damage done to the Traditional religion and cultural practices of Akyem Abuakwa. The accusation was that, religious bodies have mostly focused on the spiritual than the physical, upon the soul than the body, and on the eternal rather than the temporal. The adherents of these two religions have therefore been accused not of only ignoring the tradition and cultural practices of the people but have actively preached against it. Again, Churches/Mosques have neither made it a tradition to embark on aggressive environmental crusades nor have they created a wider sensitisation platform for the communities to exchange ideas. The study further revealed that, religious bodies are capable of developing a critical theological thinking concerning sustainability of nature.

Furthermore, traditional leaders have been accused for their contribution, their look on attitude, to the destruction of land, sacred groves, rivers, and forest reserves. The study revealed that, although traditional leaders were aware of the extent of environmental pollution and that, they had vivid knowledge of the causes; they had done little or nothing to

prevent destruction unleashed on the environment. Indeed, traditional leaders have legitimate claim for holding tradition, land and natural resources in trust for their ancestors, the living and the generation yet unborn. Such role is embedded in their Stool (office) and so, they were obliged to manage these resources and account for their stewardship. In practice however, most of these traditional leaders have held these resources in trust for themselves and their immediate ancestral line of family rather than their communities. This, according to respondents, has inspired mistrust and mismanagement of land and other natural resources in the country.

The situation is different with Mmirrikkissi Okasum Apori Atta II who is the chief of Heman and who, for some years, has practised a developmental drive which is in tandem with sustainable development. Successful as he has been in preventing illegal mining and logging activities, Apori Atta's environmental consciousness helped to conserve sacred groves, and water bodies in Heman topography. He further educates his subjects not to pursue mining activities, that ravage arable lands, but to engage their lands with farming activities that have promise for the future. Traditional leaders are therefore cautioned to embark on development that is sustainable and not to pursue development spree which often comes at the expense of everything else in the community.

The study has again discovered that, royalty pay-out to the traditional leaders by the Central government is so small that, it cannot and does not match with the huge expenditure of the traditional council. The study further observed that, such deficit does not necessarily stimulate traditional authorities into condoning the illegal mining and logging activities which consequently degrade the environment. It was also exposed that, traditional leaders have no authorisation to issue mining permit to prospective since mineral resources are solely controlled by the Central government.

It emerged from the study that, religious bodies have played significant roles in the environmental degradation debate since environmental problem is a moral problem. Religious Bodies and Faith Based Organisations (FBO) alike have a duty before God to care for the environment, and it therefore becomes disobedience for whoever turns down the opportunity to participate in environmental enterprises. Finally, the future environmental condition in Akyem Abuakwa was considered a challenging one since resources of a district or a traditional area individually, would not be enough to address it.

6.3 CONCLUSION

The degradation menace in Akyem Abuakwa traditional area cannot be left in the hands of destiny. The atrocity unleashed on the environment is therefore real and is affecting the life of both the animate and inanimate beings in the communities. Water bodies have been polluted and are drying up; deafforestation continues to widen its tentacles creating erratic climatic changes; arable lands are being ravaged causing low productivity and high cost of living in Akyem Abuakwa. Unfortunately, the people now prefer the quick financial returns of the illegal mining activities to the annual or bi-annual earnings from cocoa farming. Albeit, when cocoa farms are properly maintained, it can give continual financial returns for over 35 years. It is also known that, cocoa contributes conservatively 45% of Ghana's Gross Domestic Product (GDP). Consequently, cocoa should not be sacrificed for mining activities which financial returns are erratic and flashy but unable to sustain the people. To this end, one can assert that, causes of environmental degradation in Akyem Abuakwa Traditional area are rather anthropogenic, that is, resulting from human activities, than being natural. The above withstanding, stake holders have not done much to forestall these challenges which is hampering growth and cordial relation of human and the other life forms.

Furthermore, the Central government has been accused for awarding mining and logging contracts to prospective without first considering the views of the affected communities. Like the Central government, the traditional leaders have also been blamed for mismanaging land and natural resources bequeathed them by their ancestors. There is no doubt that traditional leaders are custodians of trust of the dead, the living, and the unborn generation. Yet, in practice, some of them have not kept such faith and have betrayed the very office they occupy. They have also deprived the people of probity and accountability, and nature has in the process suffered a fatal damage in Akyem Abuakwa.

In view of the above discussion, the role of religion, with regard to environment, has been evaluated. The Traditional African religion has for centuries, through myths, taboos, festivals and other cultural practices, been preserving the environment except that today, many people are despising the same practices and traditions. People of today are no longer scared of the dictates of the deities which were shrouded in myths and in taboos. Such behaviour has rendered nature naked before its devourer in the Akyem Abuakwa traditional area.

Furthermore, the policies and liturgy of the Church/Mosque has not been active and aggressive but have rather been silence about the environmental degradation menace. This implies that, the Church/Mosque though has participated in some environmental campaign of a sort; it has not been detailed enough to either forestalling or restoring the environment. Again, the Church/Mosque has been accused of having emphasised on the spirit to the detriment of the physical, a situation that gives room to the physical abuse of the environment.

It should further be pointed out that, many of the religious leaders are either ignorant or has little knowledge and interest in environmental issues. Religious leaders and bodies should

rather be seen acting concertedly to demonstrate leadership if the respondents' perception on environment were ever going to be influenced and transformed for good. However, matters of environmental degradation transcend the operations of such religious bodies. Consequently, the Central government, the Non government Organisations, the District and Municipal Assemblies, the Traditional Leaders, and the rural folk in Akyem Abuakwa should make commitment to the healing of the environment. Finally, humanity should begin to question the status quo that dictates the way the environment is handled.

6.4 RECOMMENDATIONS

In the light of the findings and conclusions outlined above, the following recommendations are made:

6.4.1 Educational Campaign and Sensitisation programmes

Firstly, religious bodies and traditional leaders should collaborate and embark on rigorous educational campaign to further sensitise and equip adherence with knowledge about the environment. Critics believe that, the religious bodies as a whole need to confess neglecting something very dear to God and ask for forgiveness. Through workshops, seminars, and reflections, religious adherents should be equipped with knowledge about the environment. Theological reflection will enable them to analyse, understand, and accept their God given roles as stewards of nature but not otherwise. Unfortunately, it turned out from the survey conducted that, many respondents have little or no knowledge about the environment; their religious leaders have failed to engage them on matters of environmental concerns.

6.4.2 Revitalisation of Cultural and Religious practices

Reinforcement of cultural and religious practices that inspire and promote myths and allegories in the social life of the residents of Akyem Abuakwa should be considered. The Akyem cultural practices, like many others in Africa, have in the past cloaked the preservation of environment in a shroud of scary myths, allegories, and stories which often carried serious punishment or outcome. Although some of these myths seemed obscure, they were enough to deter perpetrators and bad environmental practices. In view of the above, cultural and religious practices of the people should be revitalised. In addition, advances in science and technology clearly frustrate the efforts to reinforce cultural practices. Once no calamities or punishments are associated with flouting a cultural practice, then that resource would be, clearly, devastated

6.4.3 Promotion of Ecumenism among Religious Bodies

In line with the above, religious bodies should be unequivocal and in cooperation with themselves speak out against the atrocity unleashed upon nature. It is, therefore, recommended that, each religious body (e.g. Christianity, Islam, or Traditional religion) should consider making changes in their structures to accommodate theology of nature. To this end, certain thoughts and policies should be corrected and reformed. For example, once theological positions on environment are changed, the attitude of adherents towards nature may well enhance change. Furthermore, ecumenical spirit as against polarity should be embraced to enable religious bodies play apologist to the environment. Each religious body should become a nature-centred faith.

6.4.4 Avoidance of Duplication of effort among Environmental Brigades

Additionally, stakeholders of environmental conservation should avoid the duplication of effort made by other environmental organisations. Environmental brigades should support the work of other such groups. For effective environmental policing, it is recommended that, various communities form brigades to complement efforts of the Central government. In addition, essential channels and networks of communication should be established among peer bodies or organisations to ensure an effective field work and monitoring. Perhaps, an environmental brigade should take an initiative only if no other organisation is addressing that particular problem. In this case Churches/Mosques, Traditional faith, Faith based organisations, Non-Governmental Organisations, and Community based organisations should collaborate, and not compete with one another's effort to accomplish a common goal.

It was also realised from the survey conducted that, Churches which embarked on afforestation programmes could not take further steps to visit project sites. In such a case, the Muslim group should support the afforestation programs embarked on earlier by those Churches by either clearing bushes around them or by offering financial assistance. Religious bodies in Akyem Abuakwa would thus complement one another with whatever effort made towards the environment.

6.4.5 Religious Bodies and Environmental sanity

Conservatively, over 60% of Ghana's population claims being religious and are affiliated to a body or sect. Be that as it may, religious bodies can help revive the ailing environment through practical participation in afforestation projects, and desilting of drainages and rivers. They should also avoid putting up buildings on river banks and water courses. Some churches and many religious persons in Akyem Abuakwa are themselves guilty of building in swamps

and water courses. It is also worth pointing out that, religious adherents can make a difference where they live and where they work by practicing what they have been taught about the environment and influencing others to do likewise.

6.4.6 Land owners and Land laws

Whereas law enactment is fundamental to any democratic dispensation, it is rather the enforcement of the same that seems critical to national growth and development. Although, entrepreneurs, of timber logging and mining activities, have argued that, local clearance and social intervention is sought from chiefs and appropriate quarters before mining, this attitude is yet to ensure environmental sanity. For instance, mining law that states that, forest belt of 20 metres around river bodies should be maintained has regularly been flouted by these entrepreneurs. Ghana, therefore, should be seen to tighten and enforce Land Tenure law and also laws that regulate mineral extraction from the land. Although land owners may have Allover title to the land and some other natural resources, they must not explore and extract minerals from the land. Consequently, land owners should not lease out parcels of land for illegal mining activities. They should rather be given legal orientation on the Land Tenure law in Ghana and be helped to understand repercussions that would associate choices made.

Furthermore, farmers/land owners' interest and land regeneration policy should be given a thoughtful consideration by policy makers before mining concession and allocation. Given that, environmental legislative and policies are available, farmers and land owners should operate within the constraints imposed by these national laws on land. However, they should be represented on the board that endorses mining concession and allocation. In addition, traditional leaders and land owners should be made aware of the laws of Ghana which stipulate that, mineral deposits belong to the Central government.

6.4.7 Youth should be equipped with knowledge and employable skills

The youth of Ghana are the future leaders of the nation and so they should be equipped with knowledge, skills, and technical expertise that would afford them employment. The youth should be environmentally oriented so that their consciousness and concern towards the environment are awakened. The attitude of many of the youth towards the environment is often informed by naivety and ignorance. Furthermore, lives are shattered anytime mining pits caved in; for others, galamsey is too difficult and risky. Unfortunately, many of these youth are conditioned by the prevailing social dynamics which often have promoted character deficiencies and social misfits. The researcher recommends that, different levels of employable opportunities be made available to the youth, such as, professional training, vocation, and entrepreneurship. The Central government should collaborate with the civil agencies, religious bodies, and the district administrations to accomplish this task.

6.4.8 Collaborative efforts against Environmental menace

Observation reveals that, neither the District Administration nor the Central government; neither the traditional leaders nor the religious bodies individually have what it takes to forestall the environmental challenge in Akyem Abuakwa or elsewhere in the country. For instance, the Atiwa district alone has many environmental degraded communities which are either suffering from illegal logging or mining activities. With the many prospectors and their excavators ravaging the land, and sometimes claiming to have allocation certificate, how could the resources of a District Assembly be enough to deal with it? Rather, it would take a concerted effort of all and sundry to transform the face of mining activities in the country.

As the Central government and its monitoring agencies such as the Forestry Commission, Environmental Protection Agency, and other Law enforcement agents work assiduously

towards the conservation of nature, so should the religious bodies, traditional leaders, and land owners do to forestall further slide of our sick environment. Thus, the effective collaboration of these bodies or agents coupled with the efforts of vigilante groups of the rural folk, perpetrators will be deterred from infringing on laws that protect the environment.

6.4.9 Law enforcement and deterrent penalties for environmental offenders

Finally, as the case is in Akyem Abuakwa, so has Ghana been invaded of its land and natural resources as nation wreckers keep to their exploitative acts – illegal logging and mining activities. To arrest the situation, it is further recommended that, the Central government, policy makers of civil organisations, traditional leaders and religious bodies would themselves be law abiding. There should also be deterrent penalties for environmental offenders. Unfortunately, penalties paid for flouting environmental laws have not been deterrent enough to dissuade perpetrators. Rather, the nation keeps enacting laws upon laws but has often failed to enforce these laws. If the law enforcement bureau like the Environmental Protection Agencies, the Forestry Commission, the Judiciary, District and Municipal Assemblies, the Police, the Armed Forces among others could rise up to their task and would not compromise then, degradation of our natural resources could end. Furthermore, if traditional leaders and land owners, who had sold their lands for illegal mining and logging activities, without taking the future of their people into consideration, would repent from their exploitative behaviour and rather start to protect nature, we might be able to preserve nature and the environment.

APPENDIX
QUESTIONNAIRE

QUESTIONNAIRE FOR ENVIRONMENTAL PROTECTION AGENCY

A research is being conducted on Religion, Ecology and Sustainable Development: the Akyem Abuakwa Experience. We have the honour to select you to participate in the research by responding candidly to the items on this questionnaire. The response will be confidentially treated and used for the purpose for which it is intended.

Thank you for your co-operation.

1. What are the factors that contribute to ecological degradation in the Akyem Abuakwa traditional area? List them

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2. How do the factors mentioned in question 1 above contribute to ecological degradation

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3. In your opinion, does the ecological degradation have negative impact on the livelihoods of the people in Akyem Abuakwa?

Yes No I don't know

4. Can you enumerate such negative impact?

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.....

5. Are there any policies and framework or regulations by the central government to help protect the environment?

Yes No

6. Does the concept of sustainable development mean anything to the inhabitants of Akyem Abuakwa Area?

Yes No

7. To what extent do you think the people are practising sustainable development?

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8. Are there efforts made to ensure the sustainability of the environment in Akyem Abuakwa?

Yes No I don't know

9. Do you consider that religious bodies have any role in preventing or reversing the ecological degradation in Akyem Abuakwa area?

Yes No I don't know

10. Give reasons for your answer in question nine (9)

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11. Do you consider Traditional Religion as having a role to play in preventing the ecological degradation in Akyem Abuakwa?

Yes No I don't know

12. Give three (3) reasons for your answer in question eleven (11) above

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13. How do you consider the prospect of addressing environmental degradation in the Akyem Abuakwa area to be?

Bright No future I don't know

14. Give three (3) reasons for your answer in question 13 above.

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15. Have you considered collaborating with religious bodies in preventing or reversing the environmental degradation in Akyem Abuakwa?

Yes No we have not thought of it

16. Give reasons for your answer to question 15 above.

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17. Have you considered collaborating with Non Governmental Agencies in the attempt to prevent or reverse the environmental degradation in Akyem Abuakwa?

Yes No we have not thought of it

18. Give reasons for your answer to question 17 above.

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QUESTIONNAIRE TO THE DISTRICT ASSEMBLY

A research is being conducted on Religion, Ecology and Sustainable Development: the Akyem Abuakwa Experience. We have the honour to select you to participate in the research by responding candidly to the items on this questionnaire. The response will be confidentially treated and used for the purpose for which it is intended.

Thank you for your co-operation.

1. What are the factors that contribute to ecological degradation in the Akyem Abuakwa traditional area? List them

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2. How do the factors mentioned in question 1 above contribute to environmental degradation

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.....
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3. How does environmental degradation affect the livelihood of the people?

- Irregular rainfall pattern
 Breeding poverty
 Low food production
 Poor health
 Lack of potable water
 Don't know (ignorant)

4. Does the assembly understand the national policies or bye-laws or regulations towards the sustainable use of the environment in the Akyem Abuakwa?

- Yes No I don't know

5. If yes above, what are some of the national policies or bye-laws? Please list them.

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.....

6. What can you say about the results of these policies and efforts?

- Very good Encouraging poor

7. Are there efforts made to ensure the sustainability of the environment in Akyem Abuakwa?

- Yes No I don't know

8. Have you considered collaborating with religious bodies in preventing or reversing the environmental degradation in Akyem Abuakwa?

- Yes No we have not thought of it

9. Give reasons for your answer to question 8 above.

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.....

10. Why do you work with these Religious Organisations /NGOs? List the reasons.

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11. How has the result of your collaboration with Religious Organisations /NGOs been so far?

- Good Average Bad

12. Do you think the religious bodies have any role to play in preventing or reversing the ecological degradation in the Akyem Abuakwa Area?

- Yes No I don't know

13. Give two (2) or more reasons for your answer in question 12 above

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14. What do you consider as the role of the religious bodies in preventing and reversing the ecological degradation in Akyem Abuakwa? Please list such roles.

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QUESTIONNAIRE TO THE RURAL FOLK

A research is being conducted on Religion, Ecology and Sustainable Development: the Akyem Abuakwa Experience. We have the honour to select you to participate in the research by responding candidly to the items on this questionnaire. The response will be confidentially treated and used for the purpose for which it is intended.

Thank you for your co-operation.

1. What causes environmental degradation in your area
 - Sandwining
 - Timber felling
 - Mining activities
 - Indiscriminate dumping of refuse/rubbish
 - Defaecation everywhere possible
 - Others (specify).....

2. How is environmental degradation affecting your community?
 - Irregular rainfall pattern
 - Breeding poverty
 - Low food production
 - Poor health
 - Lack of potable water
 - Don't know

3. Do you consider this problem as affecting the living standard of the people in the Akyem Abuakwa Area?
 - Yes No I don't know

4. Has the local community made any effort to address the problem themselves?
 - Yes No I don't know

5. If no, give reasons
 - They lack the knowledge/skill
 - They lack financial resources
 - It is not their duty
 - They have not thought of it

6. If yes, what are some of the measures taken?
 - Clean up exercise
 - Tree planning
 - Desilting gutters
 - Others (specify).....

7. What have been your community's efforts in solving degradation?
 Very good Encouraging Very poor
8. Do you think the religious bodies have a role to play in solving the problem of ecological degradation and sustainable development of the environment?
 Yes No I don't know
9. If no to question 8 above, why? Give reasons.
 they lack the knowledge/skill
 they lack financial resources
 it is not their duty
 they have not thought of it
10. If yes to question 8 above, what are some of the contribution you think the traditional religion can offer to solve the problems? Mention 2 of such contributions,
 Clean up exercise & Tree Planting
 Educational campaign and sensitisation
 Desilting gutters
 Others.....
11. How do you see the future sustainability of Akyem Abuakwa environment?
 Bright No future I don't know

QUESTIONNAIRE TO THE CHURCH

A research is being conducted on Religion, Ecology and Sustainable Development: the Akyem Abuakwa Experience. We have the honour to select you to participate in the research by responding candidly to the items on this questionnaire. The response will be confidentially treated and used for the purpose for which it is intended.

Thank you for your co-operation.

1. What causes environmental degradation in your area
 - Sandwining
 - Timber felling
 - Mining
 - Indiscriminate dumping of refuse/rubbish
 - Defaecation everywhere possible
 - Other (specific).....

2. How is environmental degradation affecting your community?
 - Irregular rainfall pattern
 - Breeding poverty
 - Low food production
 - Poor health
 - Lack of potable water
 - Don't know

3. Do you consider this problem as affecting the livelihood of the people in the Akyem Abuakwa Area?
 - Yes No I don't know

4. Are there efforts made to ensure the sustainability of the environment in Akyem Abuakwa?
 - Yes No I don't know

5. Has the Church to which you belong considered environmental degradation issues a matter of concern?
 - Yes No I don't know

6. Do you consider the teachings of the Church as responsible for the way Christians relate to the natural environment?
 - Yes No I don't know

7. If yes, can you mention some of these teachings?

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.....
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8. Does the Bible enjoin Christian community to be environmentally friendly?

Yes No I don't know

9. If yes, give a biblical passage/text to support your response.

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10. If no, give a biblical text to support your response.

11. If your answer is yes in question 8 above, can you mention some of the roles you think the Christian community can play in this endeavour?

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.....

12. Has your church been involved in any activity that helps to preserve the environment?

Yes No I don't know

13. If your answer to question 12 above is yes, what are some of the activities the church has been involved?

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.....

14. Were the activities initiated from within the church?

Yes No I don't know

15. If your answer to question 14 above is no, can you mention where the initiative(s) came from?

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.....

16. What was the outcome of the initiative?

Very good Poor Encouraging Has a bright future

17. Has the Church engaged in partnership with any other body in sustaining the environment?

Yes No I don't know

18. Do you consider the need for including lessons about the environment/sustainability in the training of priest/pastors/leaders in the church?

Yes No I don't know

19. Give two (2) reasons for your answer in question 18 above?

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QUESTIONNAIRE TO THE MUSLIM COMMUNITY

A research is being conducted on Religion, Ecology and Sustainable Development: the Akyem Abuakwa Experience. We have the honour to select you to participate in the research by responding candidly to the items on this questionnaire. The response will be confidentially treated and used for the purpose for which it is intended.

Thank you for your co-operation.

1. What causes environmental degradation in your area
 Sandwining
 Timber felling
 Mining
 Indiscriminate dumping of refuse/rubbish
 Defaecation everywhere possible
 Others (specific).....

2. How is environmental degradation affecting your community?
 Irregular rainfall pattern
 Breeding poverty
 Low food production
 Poor health
 Lack of potable water
 Don't know

3. Do you consider this problem as affecting the livelihood of the people in the Akyem Abuakwa Area?
 Yes No I don't know

4. Are there efforts made to ensure the sustainability of the environment in Akyem Abuakwa?
 Yes No I don't know

5. Do you consider the teaching of Islam as responsible for the way Muslims relate to the natural environment?
 Yes No I don't know

6. If yes, can you mention some of these teachings/passages?
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.....

7. Has the Mosque to which you belong considered ecological degradation issues a matter of concern?

Yes No I don't know

8. Does the Quran enjoin Muslim community to be environmentally friendly?

Yes No I don't know

9. If yes, give a Quranic text/passage to support your response.

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.....

10. If no, give a Quranic text/passage to support your response.

11. Has the Muslim community involved in any activity that helps to sustain the environment?

Yes No I don't know

12. If your answer to question 12 above is yes, mention some of the activities the mosque has been involved?

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13. Were the activities initiated from within the Muslim community?

Yes No I don't know

14. What was the outcome?

Very good Poor Encouraging Has a bright future

15. Has the Muslim community engaged in partnership with any other body in preserving the environment?

Yes No I don't know

16. Do you consider the need for including lessons about the environment/sustainability in the training of sheiks/imams/leaders in the Mosques?

Yes No I don't know

QUESTIONNAIRE TO THE TRADITIONAL AUTHORITIES

A research is being conducted on Religion, Ecology and Sustainable Development: the Akyem Abuakwa Experience. We have the honour to select you to participate in the research by responding candidly to the items on this questionnaire. The response will be confidentially treated and used for the purpose for which it is intended.

Thank you for your co-operation.

1. What causes environmental degradation in your area?
 - Sandwining
 - Timber felling
 - Mining
 - Galamsey
 - Indiscriminate dumping of refuse/rubbish
 - Defaecation everywhere possible
 - Others (specific).....

2. Do you consider this problem as affecting the livelihood of the people in the Akyem Abuakwa Area?
 - Yes
 - No
 - I don't know

3. Are there efforts made to ensure the sustainability of the environment in Akyem Abuakwa?
 - Yes
 - No
 - I don't know

4. Do those who engage in some of these activities pay royalties to the stool
 - Yes
 - No
 - I don't know
 - Sometimes

5. If yes, what is the quantum(amount)
 - Too small
 - Enough
 - Very appreciable

6. If no, why are they not paying?
 - Operating illegally
 - We don't know them
 - Is the town folks who are doing it
 - They pay to the central government
 - Others

7. What are the royalties money used for?
- For the chiefs upkeep
 - For developmental projects
 - For tree planting
 - For replenishing the environment
 - Others
8. Does non-payment of royalties affect the way land and natural resources are managed?
- Yes No
9. Has the community any laws that protect the environment?
- Yes
 - No
10. If yes, what are they?
- Not farming near rivers/streams
 - Not going to farm on certain days
 - preservation of Sacred grove (nsamanpo)
 - Others.....
11. Has the community taken any initiative to prevent environmental degradation?
- Yes
 - No
12. Has the community collaborated with the religious bodies in solving environmental degradation and sustaining the ecosystem?
- Yes
 - No
13. If yes, in what way(s)?
- Clean up exercise
 - Tree planning & Desilting gutters
 - Sensitisation programmes
 - Others.....
14. Do you think heads of religious bodies play a role in helping curb the degradation menace?
- Yes
 - No

15. If yes, why?

- Their followers listen to them
- Because they have authority
- They are role models
- Is their duty to help protect God's property
- Others

16. If no, why?

- They lack the knowledge/skill
- They lack financial resources
- It is not their duty
- They have not thought
- Others

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