

**CHRISTIAN HIGHER EDUCATION AS HOLISTIC MISSION AND MORAL  
TRANSFORMATION: AN ASSESSMENT OF STUDYING ENVIRONMENTAL  
SCIENCE AT THE PRESBYTERIAN UNIVERSITY COLLEGE, GHANA AND THE  
ECOLOGICAL THOUGHT OF THE SOKPOE-EUE FOR THE DEVELOPMENT OF  
AN AFRICAN THEOCLOGY CURRICULUM**

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## ABSTRACT

This thesis consists of two related and subsequential research-findings corresponding to the two academic fields in which the entire study falls - Christian higher education and ecological science. The first part of the research aimed at and qualitatively examined the nature and extent of education as holistic Christian mission and as moral transformation strategy at Presbyterian University College, Ghana (PUCG). The specific objective was to find the extent to which missional studying of Environmental Science (GNSP 101) as one of the general mandatory courses in the interdisciplinary studies for all the academic programmes at PUCG, influences students morally for creation care. This objective was based on the assumption that teaching and learning environmental science as a mandatory course is a mission strategy of the founding church for promoting Christian moral responsibility for and to the environment, in view of the ever increasing magnitude of the global ecocrisis.

To this end the Presbyterian Church of Ghana's educational philosophies, policies as well as the design and delivery of the Environmental Science (GNSP 101) curriculum by Presbyterian University College, Ghana (PUCG) at Okwahu and Akuapem campuses, were assessed qualitatively. Additionally, some students and lecturers were interviewed for their responses. The parameters assessed were the Christian tone and holism in education and the related moral transformational tendencies in students for earthkeeping during the first decade of the university (2003-2013).

The findings indicated that ideologically, the educational policy of PCG and the institutional vision of PUCG have plausibly good intentions to render holistic missional education, and particularly motivate students morally for environmental responsibility in response to God's call, through studying Environmental Science (GNSP 101) as a mandatory course. However, for the first ten years of PUCG there was a gap between intention and implementation; the teaching and learning of environmental science as a general course at Okwahu and Akuapem campuses was neither emphatically holistic nor morally transformational.

Consequently, this first part of the thesis inferred and envisioned that for the teaching and learning of environmental science to be innovative, missional and morally transformative, PUCG and African Christian higher educational institutions may have to develop alternative African-oriented curricula, resource materials and appropriate methods that integrate faith and learning. I then proposed an African theology curriculum as an alternative to the Environmental Science (GNSP 101) mandatory subject. Envisaged to be designed as integrated Christian theocentric religious ecologies and ecological science, this proposed curriculum would, however, include shared inputs from real daily life experiences of both Primal and Islamic religious ecologies in Ghana. This led to the second part of the research.

This second research investigated the ecological knowledge systems and praxis of the three main religious traditions - the Primal, Christian and Islamic - of the Sokpoe-Eve in the South Tongu District of Volta Region, Ghana. It aimed at and did identify minimum common grounds on which to base constructive understanding to motivate discussion and concerted action in a plurally religious academic context. The common grounds are their religious worldviews, religious ethical impulsion for and praxis of creation care, as well as birthing and funerary rituals as priming for harmonious ecological relationships. These lessons informed the philosophy for designing the proposed African theology curriculum, its objectives, contents and delivery, to reflect African religious worldviews and eco-ethical praxis. They may motivate all religious students with common basis for concerted ecological actions.

The thesis ends with a few proposals to both PUCG and other Christian higher educational institutions pursuing holistic mission in academia, especially the need to create collegiate communities characterised with a strong Christian ecological culture and ethos.

## NYANUDEDE KPUIE

Wotù agbalētata sia me nyawo katā ɔe tometi gā eve dzi; tometi siawoe nye Kristotɔwo *fe* sukukɔkɔ dede kpakple dzɔdzɔme nusiwo *fo* xlā mī la ɲuti nusɔsrɔnyawo. Ke agbalēa me nyawo ɲuto do tso nugɔmekuku kple numedzodzro eve aɔe siwo ɔe tometi siawo fia kɔtɔɛ, le alesi wode nu wonɔewo mee la. Nugɔmekuku gbāto *fe* taɔɔdzinu enye be woadzro eme akpo be ɔe wòdzea le Kristotɔwo *fe* nusɔsrɔme alo sukukɔkɔ dede me be woteaɲu kplaa nusɔrlawo ɔe Mawu *fe* dzɔdzɔenyenye mɔwo dzi le wofe nusɔsrɔwo katā me mahā. Titriwu enye be ɔe wòdzea ledzɔdzɔmenuwoɲutinunya sɔsrɔ le Presbiterio suku gā si le Kwɔwu kple Akwapim me la be woteaɲu hea nusɔrviawo be woatsɔ belele tɔxe na anyigba kple edzinuwo abe wofe Mawuvɔvɔ metsonu ene to nusɔsrɔme mahā.

Nyanuɔeɔe siwo gɔme meku hedzro kpɔ hena dzedzeme sia kpɔkpɔ la do tso Presbiterio hame si le Ghana tɔwo *fe* sukudede ɲu ɔɔɔwɔgbalēwo kple wofe sukukɔkɔ si le Kwɔwu kple Akwapim la ɲutinya gbalēwo me. Hekpeɔe eɲu la, meté nufiala siwo fia nu tso dzɔdzɔme nusiwo *fo*xlā mī ɲuti la kple wofe nusɔrvi aɔewo *fe* nume kpɔ, be makpɔ dzesi aɔewo be vava nusɔrlawo teaɲu léa be na anyigba kple edzinuwo to Mawu vɔvɔ me abe wofe nusɔsrɔ metsonu ene mahā. Le nugɔme kuku akpagbāto kple eme dzodzroawo vɔ megbe la edze kɔtɔɛ bena Presbiterio hame si le Ghana kple efe suku kɔkɔ si le Kwɔwu kple Akwapim la ɔe kplikpaa le wofe agbalēwo me be yewo *fe* sukuviwo nasrɔ belele na anyigba kple edzinuwo katā abe Mawuvɔvɔ kple ɔɔdeasi ene. Gake taɔɔdzi sia meva dze edzi gobii le suku la *fe* *fe* ewo gbāto *fe* ɔɔwɔwɔwo me o. Eye wòdze abe esi gbetete ɔe Mawu nya dzi menɔ dzɔdzɔme nusɔsrɔawo ɲu o tae taɔɔdzi sia meva dze edzi o ene.

Eyata mebui be anyo be woawɔ ɔɔɔo yeye si atɔɲu aɔɔli esi dzi zɔm wole fifia na nusɔsrɔ tso dzɔdzɔme nusiwo *fo*xlā mī ɲuti la. Mena ɲkɔ ɔɔɔo yeye sia be Afrikatɔwo *fe* Gɔmesese le Mawu, Amegbetɔ kple Xexeme nɔnɔ ɔuti. Nye mɔkpɔkpɔ na ɔɔɔoyeye sia enye be anye mɔnu si woato ahe Mawunya kple ameyibɔwo *fe* dekonuwɔwɔ kple gɔmesese siwo sɔ kple bibliamenyawo hena belèlè na Mawu *fe* anyigba si dzi miele la naxɔ anyino ɔe amesiame me le wofe sukuawo me; eye wòakpe ɔe dzɔdzɔme nusɔsrɔawo hā ɲu. Esia kplɔm de nugɔmekuku akpa evelia me, be masrɔ nu tso Afrika Mawusubɔlawo gbɔ le alesi wose nusyawo gɔmee kple alesi wowɔna woe la ɲuti.

Nugɔmekuku akpa evelia sia xɔ nutsotso alo nyamedeɔe tso Trɔsubɔlawo, Kristotɔwo kple Awusatɔwo (alo Moslemwo), siwo le Sokpoe-Eveawo kple woɲu golɔgoewo le Tɔɲu nyigba dzi, le Volta alo Amutɔsisi nutome la, dometo aɔewo gbɔ. Tamedɔɔo na nugɔmekuku akpa evelia sia enye be woadzro eme ade dzesi dzɔdzɔme nusiwo *fo*xlā mī ɲutinunya kple gɔmesese siwo de sɔsɔge kple wonɔewo le subɔsubɔ etɔ siawo me la. Elabena ele eme be dzixɔseawo kple subɔsubɔawo to vovo; gake ne suku nusɔrlawo kpɔ be sɔminasɔe aɔewo le subɔsubɔawo *fe* gɔmesesewo me la woateɲu akpe asi alè be na anyigba kple edzinuwo. Ekema ɲuifafa alo nɔvi-nenɔ-be-manɔ *fe* kadodo nyuito anɔ amewo kple xexemenu mamleawo dome; esi ahe agbededie nɔnɔ vɛ na mī katā.

Nusiwo nugɔmekuku evelia sia de dzesii be wode sɔsɔge kple wonɔewo le subɔsubɔ etɔ siawo me tso dzɔdzɔme nusiwo *fo*xlā mī ɲui la, mā ɔe akpa etɔ me. Gbātoenye alesi wose xexeme kple nusiwo le eme la gɔmee; evelia, nusiwo ta kple mɔ siwo dzi wotona léa be na anyigbakple edzinuwoe. Etɔlia enye mɔnukpɔkpɔ siwo le ame dzidzi kple amekuku kɔnu wɔwɔwo me siwo ate ɲu ahe ɲuifafa kadodo kple belèlè nyuie ava ame kple xexeme nuwo domee, be anyinɔnɔ na nyo na nuwo katā, vevieto amegbetɔ, le kodzogbe kple avlime sia. Mele mɔ kpɔm be esi gɔmeseseawo do tso subɔsubɔ etɔawo gbɔ ta la awɔe be nusɔrla siwo nye Trɔsubɔlawo, Kristotɔwo kple Muslimwo le suku ɔeka me la atɔɲu awɔ ɔeka le nusɔsrɔ,

tamedodo, detsotsɔ le me kpakple afodefe siwo ana wokatā woalè be na anyigba kple edzinuwo abe Mawu subɔlawo ene la, bɔbɔe.

Le nuwuwu la agbalɛsia fia monu adewo na dofo yeye si dzi woazɔ afia nu tso fomedodo siwo le Mawu, Amegbetɔ kple Xexeame ŋu la ŋu le Afrika Krsitotɔwo fe suku kɔkɔwo me. Vevietɔ enye be suku siawo na kpɔ egbo be Mawu sosroɖa kple ejuti gbenɔɔ le anyigbadzi, abe alesi Afrikamawusubɔlawo se egomee ene la, naxɔ anyinɔ de suku kpoawo dzi.

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## LIST OF ABBREVIATIONS

AACU	Association of American Colleges and Universities
ACI	Akrofi-Christaller Institute of Theology, Mission and Culture
AI	Appreciative Inquiry
AIC	African Indigenous Christianity
ARS	Apostolic Revelation Society
CE	Common Era
CEM	Christ Evangelical Mission
CERSGIS	Centre for Remote Sensing and Geographic Information Services
COP	Church of Pentecost
DHCCC	Divine Healing Church of Christ in Christ
EPA	Environmental Protection Agency
ERMP	Environmental and Rural Management Programme
GNSP	General (or Interdisciplinary) Studies/Programme
GPA	Grade Point Average
HoD	Head of Department
IAPCHE	Association for the Promotion of Christian Higher Education
ICT/Maths	Information, Communication and Technology/Mathematics Department
MEST	Ministry of Environment, Science and Technology
MSC	Most Significant Change
NAB	National Accreditation Board
NCCC	National Climate Change Committee
OM	Outcome Mapping
PIE	Participatory Impact Evaluation
PUCG	Presbyterian University College, Ghana
TD	Transformational development
UNEP	United Nations Environment Programme

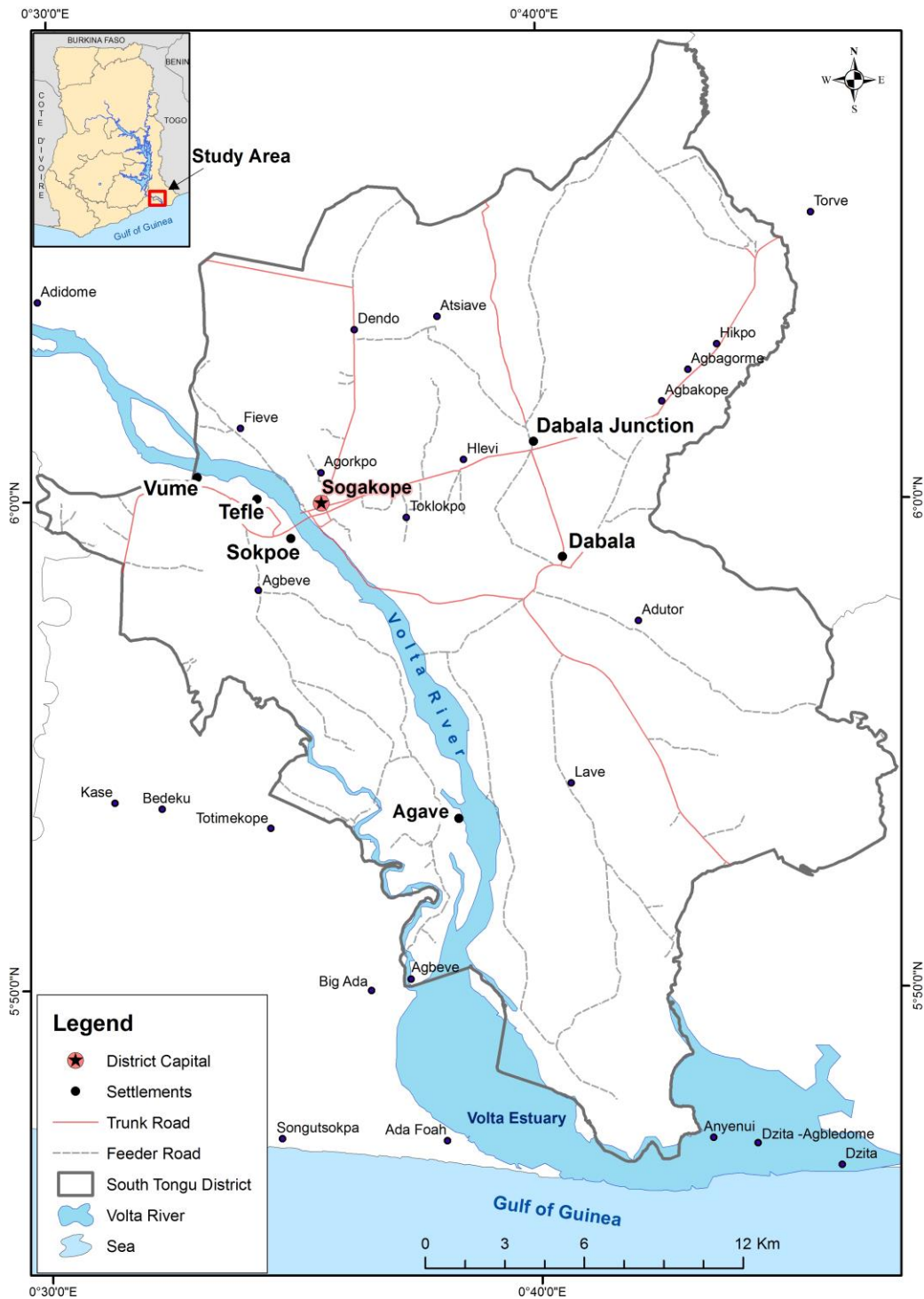
## GLOSSARY

The Eʋe used in this study predominantly reflects the Eʋe spoken by the Tɔŋu Districts of Southern Volta Region of Ghana. Many of the words are, however, similar to those used by the Aŋɔ and the Peki or Uedomeawo. My translations into English are almost literal, which means the English expression and grammar is somewhat distorted. In addition, there are some new English words that I have coined for lack of close equivalents that preserve the conceptions or thought forms and understandings in the Eʋe expressions about the religious worldviews of the Sokpoe-Eʋe.

<i>Abosam</i>	Satan, devil
<i>Agasigbe</i>	Aga's market day, one day of rest out of five-day week, day for sacrificial rituals in primal religion
<i>Ame</i>	Created thing, human as a creature. The word is used as neutral noun only for humans.
<i>Ameɛ</i>	Lifeless or dead human body, corpse
<i>Amegbetɔ</i>	Enlivened created body, human being, humanity
<i>Amewuga</i>	Human is more than money; humanity is the most valuable of all things
<i>Avlime</i> or <i>Tsɛife</i> :	Terresphere. World of the living-dead beneath gecosphere, which for the primal religionists opens contiguously back to <i>kodzogbe</i> (gecosphere) and so explains why <i>ɲɔliwo</i> (ghosts) can freely move between <i>avlime</i> and <i>kodzogbe</i> . Christians and Muslims use this term to imply the gateway between gecosphere and celesphere through which <i>luwɔ</i> (soul/spirit) of the dead pass into either <i>dzifovii</i> (highest heaven) or <i>dzomavɔme</i> (hell).
<i>Awusato</i>	Hausa person, Muslim
<i>Aziza</i>	Dwarf, short human-like creatures with feet turned backwards, believed to possess spiritual powers
<i>Dzifovii</i> :	Highest heaven or Paradise. This is the place of blissful and glorious eternal living for godly souls as believed by both Christians and Muslims in Sokpoe eco-area.
<i>Dzifoxexeme/Dzifo</i> :	Celesphere. The eternal or perpetual world or place of abode of the living-dead, located above <i>dziŋɔli/alilikpo</i> (sky). It is the cosmic space for life post-mortem; the spatial arena within which is located both <i>dzifovii</i> (highest heaven) and <i>dzomavɔme</i> (hell).
<i>Dzigbedi</i>	Dirt of parturition, broinhidrosis, persistent repulsive body odour
<i>Dziŋɔli/alilikpo</i>	Sky, clouds, firmament, stratosphere
<i>Dzomavɔme</i> :	Hell or place of eternal fire. It is the place of punishment for ungodly souls/spirits as believed by both Christians and Muslims in Sokpoe eco-area.
<i>Diɖexɔme</i>	Maternity room

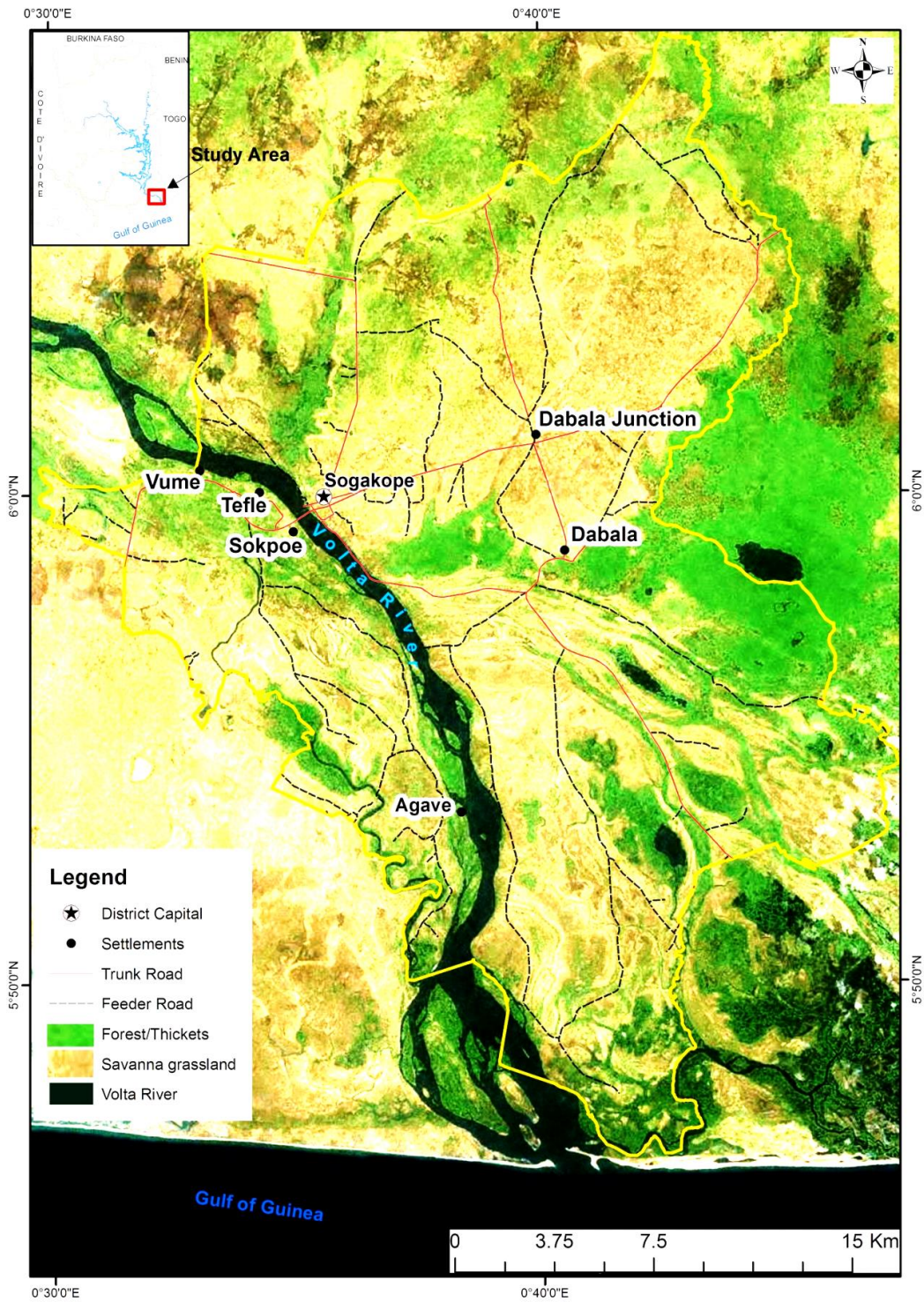
<i>Kodzogbe</i>	The place of physical existence on the Earth; physical state of human being
<i>Legba</i>	Moulded image, statue, idol
<i>Luwɔ</i>	Soul; the real being of human, which is a created but immortal mirror of the created but mortal <i>ɲutilā</i> (body); shadow of a living person under partial light.
<i>Lĩ</i>	Millet, sorgum, grain
<i>Ɖɔli</i>	Ghost, spiritual form of human existence; or spirit of deceased seen in human body. Primal religionists sometimes equate it with <i>luwɔ</i> ; but Muslims do not have concept of <i>ɲɔli</i> .
<i>Ɖutilā/Lākusi</i>	Body, flesh. It is the part of being created with or from clay, into which <i>Mawu</i> (God) breathed <i>gbɔgbɔ</i> (breath/spirit). Thus it is the created, physical and mortal aspect of humans and animals.
<i>Tɔgbeyɔli</i>	Ancestor (male); <i>Mamaɲɔli</i> is female ancestor, but used mainly by the Aɲɔ-Eve. The Tɔɲu-Eve refer to ancestors more often simply as <i>tɔgbetɔgbewo</i> .
<i>Trɔ̃</i>	Local god, deity
<i>Trɔ̃nua</i>	Person in charge of a deity, priest of deity
<i>Trɔ̃subɔla</i>	Worshipper or devotee of <i>trɔ̃</i> , primal religionist
<i>Tsixetsixe</i>	An adjective qualifying breathing, visible inhaling and exhaling
<i>Vɪdɛdɛdɛgo</i>	Taking a baby out, outdoorizing rite
<i>Xexeme</i>	(1) ( <i>agbe gbegblẽ nɔnɔ</i> ) Detestable human behaviours, e.g. <i>ametsitsi mabumabu le gbɔ sɔm elabe xexeme le gbegblẽm</i> = increasing disrespect of the elderly amounts to deteriorating <i>xexeme</i> . Thus the expression <i>xexeme le gbegblẽm</i> actually refers to living conditions, socially, religiously and ecologically not in tandem with how the creator purposes it to be, at least per their worldview. (2) ( <i>lāme gbegblẽ atraɖii</i> ) Chronic or persisting health conditions e.g. <i>nye gbɔgbɔtsixe xexeme ga vlu</i> = my chronic asthmatic <i>xexeme</i> (condition) is back (3) ( <i>agbenɔfe/anyigbadzi/kodzogbe</i> ) Gecosphere or cosmic environment for life; the Earth surface and its atmospheric regions up to the sky observable with unaided eyes and no scientific calculations, as the home where <i>we</i> (human and nonhuman creation) live physically and act ecologically in holistic interrelationships. The spatial arena consisting of lithosphere, atmosphere and stratosphere.
<i>Xexemetɔ/Egodotɔ</i>	Worldly person, person outside Christianity, non-believer
<i>Xɔnudzɔgoe</i>	Guarding gourd; a gourd packed with food stuff to lure evil spirits off





**Map 1 South Tongu District showing Study Area: Sokpoe, Sogakope, Dabala Junction and Dabala)**

**Source:** Bashara Ahmed Abubakari, Centre for Remote Sensing and Geographic Information Services (CERSGIS), University of Ghana, Legon, Accra, Ghana.



**Map 2 Ecological Map (Esri satellite image) of South Togo, December 2016**  
**Source:** Bashara Ahmed Abubakari , Centre for Remote Sensing and Geographic Information Services (CERSGIS), University of Ghana, Legon, Accra, Ghana.

## **DEDICATION**

With great love and admiration I dedicate this work to the glory of God and to my sister Bernice Peace Amavi Toklo in appreciation of the educational foundation she laid for me. Thank you sister for all the sacrifices you made to send me to secondary school against all odds. That was the strong spring board for my educational flights to date. God richly bless you.

# CHAPTER 1

## GENERAL INTRODUCTION TO THE STUDY

### 1.1 Introduction

In 2010, a forty-five year old woman from Bawku West District in the Upper East Region of Ghana granted an interview to researchers from the Ministry of Environment, Science and Technology (MEST), who were reviewing the extent of the socio-economic impacts of Ghana's ecocrisis. She responded,

I have seven children...The floods collapsed our three rooms and washed our crops...Hunger stared us straight in the face...Getting firewood is now very difficult and most times I have to climb trees for dried branches... sometimes I do this with my baby on my back...<sup>1</sup>

This woman's lamentation and her reference to 'getting firewood' points to the wider anthropogenic<sup>2</sup> causes of climate change, which impact both humans and the environment in many parts of Ghana. The results of climate change are reflected in floods, loss of landed property, crop failure, hunger, land degradation, lack of wood energy, vulnerability of women and children to various life threatening dangers and gradual loss of biodiversity. The Environmental Protection Agency (EPA) of Ghana corroborates this evidence with further instances of difficulties with obtaining potable water, as inland water bodies dry up and water tables fall, and food insecurity, resulting from devastation of harvested crops through raised temperatures and plant pathological factors. A section of their 2004 report observes that temperatures in the country are gradually rising and this is affecting agriculture. According to the report a 1° C rise in temperature, for instance, has resulted in a general reduction in production levels of corn and millet. The report shows, furthermore, that while the fast rate of deforestation is creating warmer weather in the cities, high temperatures also destroy the flora and fauna. The resultant effects of all these include the onset of desertification in the Upper East, especially in Bawku area; many perennial rivers in the country are becoming seasonal, and sea levels are rising in coastal areas such as Keta and Ada - areas which already experience the devastating effects of sea erosion. The report states further that as buildings and other properties are destroyed, people and birds are compelled to migrate to other areas. In addition, projections indicate that there will be an increase in certain kinds of pests and diseases.<sup>3</sup>

If climate change in Ghana contributes to a breakdown in human and nonhuman wellbeing, then it goes against total wellness of all beings (3 Jn. 1:2), which is the divine will, because it denies them their basic essential life needs. Humans, and other animals, birds and fish suffer from food insecurity, ill-health, and an unsafe habitat, leading to frequent migrations in search of safer and greener pastures. In addition, plant life is subjected to both

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<sup>1</sup> National Climate Change Committee (NCCC), *Ghana goes for Green Growth, National Engagement on Climate Change, Discussion Document, Summary*, (Accra: Ministry of Environment, Science and Technology, (MEST), (November, 2010), p. 28.

<sup>2</sup> Patrick Curry, *Ecological Ethics - An Introduction*, 2nd ed., (Cambridge: Polity Press, 2011), pp. 201-2. Curry asserts that 'a significant amount of climate change is almost certainly anthropogenic (human-caused).'

<sup>3</sup> Environmental Protection Agency (EPA), *Ghana State of Environment Report 2004*, (ACCRA: EPA, Ghana, April 2005), p. 6.

the vagaries of the deteriorating climatic conditions and the wanton destructive behaviours of humans. The government of Ghana declaring climate change as a 'developmental challenge' in 2010, appealed to Ghanaians to get involved in a concerted effort to care for creation.<sup>4</sup> In this respect and to this end, educational departments and institutions may design and offer appropriate environmental science curricula, which may stimulate moral environmentalism in the youth and students.

The Presbyterian Church of Ghana (PCG) responding to national and global needs for lasting action in mitigating the ecocrisis, enshrined in her holistic educational philosophy a missional<sup>5</sup> policy for inspiring moral ecocare 'discipleship' in students. Stated as the seventh article, the environmental policy of the PCG educational philosophy expects that education should 'lead' (transform) individuals 'to appreciate the need to maintain the environment and protect the natural resources' (morally care for creation) in order 'to avoid their degeneration and consequent destruction of humanity.'<sup>6</sup> This policy seems anthropocentric in that it focuses on only the *Homo sapiens* species in the eco-community with the objective to promote sustenance of nature for the sake of and to benefit only human life. Nevertheless, it suggests a theological intention of the church, at least policy-wise, for Presbyterian formal education not only to necessarily include ecological studies in the curricula, but that such studies should actually 'lead' (morally transform) the learner to appreciate the need to maintain the environment.<sup>7</sup> That is to say environmental study needs to impact pupils and students of Presbyterian educational institutions to morally and responsibly care for creation.<sup>8</sup>

From the mid-nineteenth century, a mission-oriented philosophy undergirding Presbyterian education in Ghana operated only at pre-tertiary levels until it was introduced at tertiary level at the beginning of the twenty-first century. Although the praxis of this philosophy and policy has not been 'subjected to [systematic] scrutiny',<sup>9</sup> the obvious influence of Presbyterian training on the spiritual and socio-economic life of many people in Ghana and Africa has been notable. Kwamena-Poh describes this influence as creating, in Presbyterian trained learners, a 'connection between conversion to Christianity and social well-being

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<sup>4</sup> H.E. Vice-president John Mahama of Ghana, 'Message from the Vice President' to the National Climate Change Committee (NCCC), *Ghana Goes for Green Growth, National Engagement on Climate Change, Discussion Document, Summary* (Accra: Ministry of Environment, Science and Technology, MEST, November 2010), p. 28. [Accessed 31/October/2013] <http://cdkn.org/wp-content/uploads/2011/04/NCCPF-Summary-FINAL.pdf>.

<sup>5</sup> Emmanuel Martey, 'Foreword' to *Policy Document on General Education* (Accra: Presbyterian Press, 2015) pp. 5 and 13, states that the schools are 'mediums of making converts' indirectly through practical faith and study of the scriptures.

<sup>6</sup> PCG Department of Education, *Policy on General Education*, p. 14.

<sup>7</sup> PCG Department of Education, *Policy on General Education*, p. 14.

<sup>8</sup> I am a Presbyterian minister - born, bred, schooled, baptised and confirmed as Presbyterian. I recall in the mid-twentieth century (1960s) as a pupil in 'Sokpoe Ghana Presbyterian primary school' our young minds were already introduced to environmental consciousness and responsibility through lessons in Nature Study, Gardening and Hygiene. Pragmatically these subjects encouraged us to enthusiastically plant tree seedlings and responsibly water them until they grew so we could inscribe our names on them. Others were in charge of flowerbeds that beautified the frontage of the school premises; and walking on lawns was highly forbidden. Personal hygiene and cleanliness demanded that our teachers inspected our school uniforms, fingernails, hairdos and teeth every Monday and Friday. The motivation and impulsion for responding to this basic ecological training was in dividing us into 'sections' identified by colours: green, red, yellow, and blue. The sections competed in the ecological activities, and the lowest scored section would suffer hooting or given some task during evening closing assembly on Fridays. Every section leader and members therefore worked hard to avoid Friday shout of '*namo kpe, green kpe*' (a Ga expression for 'who is last, green is last') that crowned the week's school interactions.

<sup>9</sup> Martey, *Presbyterian Church of Ghana, Policy on General Education*, p. 5.



through hard work.<sup>10</sup> Now, in the first decade of the twenty-first century, the church has opportunity to apply, in principle, the objective of holistic mission education at university level.

This thesis consists of two related and subsequential research-findings corresponding to the two academic fields - Christian higher education and ecology - in which the entire study falls. The first field study aimed at and examined the nature and extent of education as a holistic mission and as a moral transformation strategy at Presbyterian University College, Ghana (PUCG). In other words, it focused on finding the challenges with missional studying in PUCG as a Christian higher educational institute; and particularly, the potential of influencing students' morals for environmental responsibility in relation to their studying Environmental Science (GNSP 101) as one of the general mandatory courses in the interdisciplinary studies for all the academic programmes. The objective was based on the assumption that teaching and learning environmental science as a general course is a mission strategy for promoting Christian moral responsibility for and to the environment in students, in view of the ever increasing magnitude of the global ecocrisis. Yet neither this understanding nor its implementation was obvious in the first ten years of offering the course in PUCG. Derived from a personal experience of teaching the course, the desire to ascertain the verity or otherwise of this assumption, the reasons associated therewith and a yearn for a possible alternative curriculum that was envisaged to reflect African context, motivated the entire research, including the two field studies.

## 1.2 The Motivational Impetus for the Study

In his book, *African Earthkeepers - Wholistic Interfaith Mission*, M. L. Daneel was uncertain how, in view of Western Christian cosmology, African indigenous (primal and Christian) religious consciousness of the environment could contribute anything significant to the development of global environmental ethics. But he was certain that his publication would challenge and inspire someone 'in the common quest of Earthkeepers worldwide to heal the Earth.'<sup>11</sup> Perhaps I am one such challenged and inspired 'disciple' of Daneel - a result of his published experiences in Africa. For my interest in this study heightened during the course work for my Masters of Theology/Philosophy Doctoral programme at Akrofi-Christaller Institute (ACI) in 2013/14 academic year. Particularly in the Theology, Human Needs and Environment course in October 2013, I learnt that 'religion provides strong motivation for human protection of the environment'<sup>12</sup> with a clear case of Daneel's Zimbabwean Earthkeepers. The Zimbabwean Earth keeping projects were in response to their deforestation challenges, and were developed based on African indigenous religious cosmologies and ethical regulations - both primal and Christian.<sup>13</sup> Intrigued by their example, I intuitively described their work as 'African theocology' and shared with some colleagues my hope to explore it further as an alternative to the environmental science course in our African universities, especially Presbyterian University College, Ghana (PUCG).

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<sup>10</sup> M. A. Kwamena-Poh, *Vision and Achievement- A hundred and fifty years of Presbyterian Church of Ghana*, (Accra: Waterville Publishing House, 2011), p. xxiii.

<sup>11</sup> M. L. Daneel, *African Earthkeepers - Wholistic Inter faith Mission*, (Maryknoll: Orbis Books, 2001), p. 106.

<sup>12</sup> M. L. Daneel, 'Zimbabwe's Earthkeepers -When Green Warriors Enter the Valley of Shadows', in Catherine M. Tucker, (ed.), *Nature, Science and Religion*, (USA: SAR Press, 2012), pp. 202-207.

<sup>13</sup> The Christians in the projects belonged to sects of African Indigenous Christianity (AIC).

Howard Kris Carter defines 'theocology' as 'a mix of theology and ecology, the study of God and the study of the ecosystems'.<sup>14</sup> By 'African theocology' I envisage and mean the study of the relationships between God (the Supreme Being) as Creator and His creations (human and nonhuman) and the role of humanity in these relationships, from the perspective of God and in the context of African religiosity. As an academic discipline it is essentially to be a facet of or an approach to doing religious *ecology*. It is, therefore, essentially an *ecological* study, but recognizes that ecological/environmental science 'needs to be in dialogue with other disciplines,' especially African religions and religious ethics, 'in seeking not only comprehensive solutions,' but moral and missional impulsion to solving 'both global and local environmental problems.'<sup>15</sup> In other words, African theocology is envisioned as a Christian theistic *ecology*, to be studied by exploring African religious worldviews, eco-regulations and rituals, interpreted as much as possible with Biblical texts in order to broaden understanding of and commitment to resolving the complex nature of the current environmental concerns.<sup>16</sup>

This approach is of particular importance because, despite the assertions that religious practices have contributed to eco-degradations,<sup>17</sup> many supporters and contributors of religious ecology argue that science education is simply not enough to inspire the change necessary in our current environmental crisis.<sup>18</sup> It is noticeable in the West, for instance, that since the ideological conception and introduction of religious ecologies in academia from the late 1990s there is an increasing 'force for eco-transformation,' manifested in 'growing religious environmentalism, statements on the importance of ecological protection and emergence of hundreds of grassroots projects by religious traditions.'<sup>19</sup> I shall discuss or allude to the need for religion, particularly African religious traditions, in studying African theocology as a missional ecological study further in chapters three and eight. It is sufficient here to state that though science and technology share many important features of human culture with religion, they leave unexplored essential wellsprings of human motivation and concern that shape the world as we know it.<sup>20</sup> African theocology's ultimate hope is to encourage and provide Christian motivation to morally care for the Earth as a mission of the church. This involves regaining God's perspectives on ecology, through interpreting both the content of ecological science and African religious eco-knowledge with Christian scriptures, as much as possible.

I later discovered, however, that my idea of 'theocology' is similar in many respects to that of 'eco-theology', the conventional way of calling the Christian religious approach to studying ecology, with emphasis on Christian *theology*. My motivation to inverse the name was in order to let 'African theocology' be perceptible and practised more as *ecological* study

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<sup>14</sup> It is noteworthy that concurrently, in October 2013 when I conceived the ideas of Theocology in Akuapem-Akropong, Ghana, another Presbyterian minister, working independently in Auckland, New Zealand, also coined the same title. Howard Kris Carter called a series of teachings he embarked on to promote Christian environmentalism from study of the Psalms, 'Theocology'. His actual theme was 'The breath Print of God and the Renewal of Care for Creation in the Nature Psalms.' He explains 'Theo-cology' as in the text and hoped that 'as we look at the nature Psalms that we regain sound theological basis [God's perspective] for the care of creation, which in turn will encourage us to care for the planet that God has gifted us.' (See his blog page, accessed 10 July 2017 at [howard-carter.blogspot.com/2013/10/looking-up-majesty-of-god-and-our-place.html](http://howard-carter.blogspot.com/2013/10/looking-up-majesty-of-god-and-our-place.html)).

<sup>15</sup> 'Forum on Religion and Ecology at Yale,' accessed 9 November 2017, from [http://fore.yale.edu/files/Forum\\_Overview.pdf](http://fore.yale.edu/files/Forum_Overview.pdf).

<sup>16</sup> 'Forum on Religion and Ecology at Yale.'

<sup>17</sup> Tucker and Grim, 'Series Foreword' to *Islam and Ecology*, p. xx.

<sup>18</sup> 'What is ecotheology?', accessed on 9 November 2017, from <https://www.youtube.com/watch?v=04-KyAN03Kg>.

<sup>19</sup> 'Forum on Religion and Ecology at Yale.'

<sup>20</sup> Lawrence Sullivan, 'Series Preface' to *Islam and Ecology*, Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), pp. xii-xiii.

with grounding in God. This will assist in addressing some concerns at PUCG that a religious motif renders Environmental Science (GNSP 101) no longer a science subject. Secondly, I believe the inversed name connotes the subject's objective and content as a corollary of theology of nature more than the conventional name. I shall compare the concepts and concerns of the two disciplines (or rather names) further in chapter seven.

It is noteworthy that conventional ecotheology itself is an emerging discipline of study,<sup>21</sup> beginning since the second half,<sup>22</sup> but more pronounced in the last decade of the twentieth century.<sup>23</sup> As Jonathan J. Bonk wrote in 2008,

Only now are Catholic, Protestant, and Orthodox missiologists starting to realize that strategies for saving the world have been framed within a theological cocoon that prevented them from adequately understanding the end result of their civilization's notions of progress, development, and the social material destiny of humankind.<sup>24</sup>

Knowing that the conventionally known ecotheology is a new academic discipline further strengthened my desire and motivation to deepen the study towards ultimately contributing an African input to the design of what I envisaged as an 'African theocology.'

The urge to design an African theocology as a necessary alternative to the environmental science curriculum for undergraduate college and university students itself resulted from an experience as both the University Chaplain and a lecturer of the general and mandatory Environmental Science (GNSP 101) at Okwahu Campus of PUCG between 2009/10 and 2010/11 academic years. Being my first experience of interacting with the students under the academic thematic area of the university's functions<sup>25</sup> and with a chaplain's eyes, questions about PUCG's offer of holistic education as a strategic mission-oriented mandate of the founding church, the Presbyterian Church of Ghana (PCG), caught my attention. How does the university engage in holistic education particularly under the academic thematic area, and especially the teaching and learning of environmental science as a mission strategy for promoting students' moral responsibility to and for the environment?

Apart from the questions raised from students' negative attitudes toward this subject a few other reasons informed the choice of environmental science for this study. It is one of the few General or Interdisciplinary Studies (GNSPs), which are mandatory for almost all students at PUCG.<sup>26</sup> Thus, it offers opportunity to assess how PUCG attempts to train *most* of its students - and not only those with majors in ecological studies - to respond morally to the all-important global environmental challenges and threats to terrestrial life. Mark Stewart, in his essay 'Transforming Higher Education: A Practical Plan for Integrating Sustainability

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<sup>21</sup> John A. Grim and Mary E. Tucker, *Ecology and Religion*, (Washington D.C.: Island Press, 2014), p. 63.

<sup>22</sup> Grim and Tucker, *Ecology and Religion*, p. 87.

<sup>23</sup> William P. Cunningham and Barbara Woodworth Saigo, *Environmental Science - A Global Concern*, 6<sup>th</sup> ed. (New York: McGraw-Hill Inc., 2001), p. xv.

<sup>24</sup> Jonathan J. Bonk, 'Mission and the groaning of Creation,' *International Bulletin of Missionary Research*, Vol. 32, No. 4, October 2008, p. 170.

<sup>25</sup> Presbyterian University College, Ghana emphasises four thematic areas that guide its structure and functions: Academic, Academic Support Services, Finance and Outreach. I have been relating with students under the Support Services, particularly as the University chaplain and head of the Chaplaincy and Life Values Promotion Centre, since 2007. See *Presbyterian University College, Ghana Strategic Plan 2008/2009-2018/2019*, (Abetifi: Registry, 2010), p. 8. Lecturing in Environmental Science from 2009 -2010 was my first opportunity to function under the Academic theme also, additionally.

<sup>26</sup> The other general courses are English and French languages, Introduction to Philosophy and Logics, Introduction to Religion and Culture.



Education into the Student Experience<sup>27</sup> reminds us of the importance to engage *all* university students in sustainable earthkeeping education and praxis in the twenty-first century. Among others he explains that it will enable them explore how their major fields of study relate to environmental sustainability, and how they will help usher in a better future.<sup>28</sup> PUCG holds the same view as Stewart in that although a major environmental programme exists in the faculty of Development Studies at Akuapem campus called the Environmental and Rural Management Programme (ERMP), there is a minor or general form, simply known as Environmental Science (GNSP 101), offered for non-ERMP students at both Akuapem and Okwahu campuses. Thus, a choice of GNSP 101 for this study is a chance to assess the extent PUCG impacts the majority of the students for environmental responsibility, and thus contributing to sustainability through holistic missional education.

More importantly for the purposes of this study, Environmental Science (GNSP 101) appears to be the only course among the GNSPs, which students may not easily recognise as integral with concepts of spirituality to attain holistic education and moral transformation. In other words, the study assumes that because students' attitude in my class suggested they held the view (theory) that faith and science are not integral, they had difficulty appreciating the integrity of religious tones in the environmental science course to motivate them morally for environmental responsibility. They may not have the same difficulty with the other general courses like Religion and Culture or Philosophy and Logics. In that case, GNSP 101 becomes what David Silverman describes as a 'deviant' course selected for the purposes of a study. A 'deviant' course, as Silverman explains, means a course that is not likely to support my argument that faith and science are integral, contrary to students' views, and therefore offers a crucial test of my position.<sup>29</sup> Silverman's argument seems to suggest that for a reliable qualitative evidence of the effectiveness of holistic academic programmes at PUCG it makes sense to choose a 'deviant' general course, in this case Environmental Science (GNSP 101). Agreeably this may be so because, in research, our 'theoretical as well as methodological decisions...relate not only to how we conceptualize the world but also to...how our research subjects [such as students and lecturers in this case] think about things.'<sup>30</sup> This prompted a quest in me to find out:

1. Whether the teaching and learning of GNSP 101 has some inherent problems associated with it, particularly, whether it is truly irrelevant in contributing to the university's mandate and objective of providing holistic and morally transformational education, as students seem to suggest.
2. Why do students tend to object integrating religious faith in the learning of scientific facts?

The quest for an answer to these questions led to the design of this study based on an articulated research problem.

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<sup>27</sup>Mark Stewart, 'Transforming Higher Education: A Practical Plan for Integrating Sustainability Education into the Student Experience' *Journal of Sustainability Education* Vol. 1, May 2010, p. 1. accessed 28/1/2015 from <http://www.jsedimensions.org/wordpress/wp-content/uploads/2010/05/Stewart2010.pdf>

<sup>28</sup> Stewart, 'Transforming Higher Education', p. 1.

<sup>29</sup> David Silverman, *Doing qualitative research- A practical handbook*, (London: SAGE Publications, 2000), p. 85.

<sup>30</sup> Silverman, *Doing qualitative research*, p. 85.

### 1.3 The Undergirding Problem of the Study

In my view, the various students exposed to studying environmental science as a mandatory interdisciplinary course (GNSP 101) at PUCG over the first decade, have not grasped the essence of the course in forming them as human beings made in the image of God (*imago Dei*).<sup>31</sup> Consequently, they tend to disregard the course, treat it as irrelevant and simply consider it an 'unnecessary burden' to be cursorily completed quickly in a semester, just to satisfy academic requirement. This observation may have one or many root causes: from the attitudes of both the students and teachers, the design (objectives and content) of the course and/or the method of teaching and learning it, among others.<sup>32</sup> In this case, we have, perhaps, a problem of non-achievement regarding holistic education as mission and for moral transformation, particularly in the teaching and learning of mandatory environmental science at PUCG, as implied in PCG's educational policy. By extension, it also implies a failure of the church to impart many college-level youth with holistic education, in this case self-motivation for moral environmental responsibility. A more fundamental question, however, is whether the strategy of holistic education as vision and mission is attainable. For, the Very Rev. Prof. Emmanuel Martey, a past moderator of the General Assembly of PCG, reflecting on PCG's educational philosophy thinks that 'the basic motive of employing the schools as mediums of making converts<sup>33</sup> has not yet been subjected to any scrutiny'.<sup>34</sup> According to Allan A. Glithorn one reason to assess a programme or policy is when it 'is widely used but has had little systematic evaluation'.<sup>35</sup> Thus, an effort to verify, through systematic scrutiny, the observed tendency of students to downplay environmental science as a mandatory course, particularly its concerns for Christian moral impact, is an expedient reason for the study.

### 1.4 The Study's Purpose and Objectives

This study based its purpose and objectives on the presupposition that influencing behavioural change in African Christianity through missional education holds a significant potential in morally sustainable human-Earth relationships.<sup>36</sup> Hence, it aims to perform three main tasks:

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<sup>31</sup> It is inferable from Bryant L. Myers, *Walking with the Poor - Principles and Practices of Transformational Development*, Revised ed., (Maryknoll, NY: Orbis Books, 2011), p. 202 that being in the image of God implies, among others, a vocation or mission involving moral responsibility in their human-Earth relations.

<sup>32</sup> In short, there appears to be a question or challenge about the understanding and effectiveness of studying the general Environmental Science (GNSP 101) course as part of efforts to fulfil PUCG's Christian mission mandate and strategy in influencing the moral conscience of the students for self-motivation to environmental responsibility.

<sup>33</sup> Converts in this case refers to disciplined leaders with moral responsibilities based on integrated Christian faith and praxis in learning.

<sup>34</sup> Martey, 'Foreword', *Presbyterian Policy on General Education*, p. 5.

<sup>35</sup> Allan Glatthorn, *Writing the winning dissertation - A Step-by-step Guide*, (London: Corwin Press, 1998), p. 76.

<sup>36</sup> This postulation or thesis of the study enjoys corroboration assertion from the Environmental Protection Agency (EPA) of Ghana that 'Education and research holds (sic) the key to changing negative habits and behavior patterns, improving on livelihoods systems and focusing on best ways of ensuring sustainable national development.' See EPA, 'National Programme On Sustainable Consumption And Production (SCP) For Ghana (2011-2016) Volume 2 Final Report', (EPA & UNEP, November 2010), p.7. [accessed 19 May 2015], <http://www.unep.org/roa/Portals/137/Docs/pdf/Thematic/RE/Ghana%20SDAP%20Final%20Report%20Volume%202.pdf>.

1. To subject the Environmental Science (GNSP 101) curriculum to scrutiny by analysing its attainability and potentials in holistic education for moral transformation towards the care of creation, as a mission strategy of PCG, in the first decade of PUCG. This will be achieved by:
  - a) Examining the PCG philosophy of education as holistic mission and the undergirding principles of PUCG towards creation care, in relation with the general concepts and praxis of Christian higher education.
  - b) Assessing the curriculum (objectives, content and delivery) of GNSP 101 and its potentials, as a secular (science or facts-only) subject, to transform students to be morally responsible to and for the Earth.
  - c) Analysing students and faculty views about GNSP 101 in terms of its goals, content and delivery, for its potential as a holistic education and mission strategy for moral transformation towards creation care.
  - d) Rethinking how GNSP 101 can be made more effective to fulfil the holistic mission philosophy and strategy of PCG in the academia, by examining the concepts of religious ecology and proposing African theology as an alternative environmental science curriculum.
2. To investigate the major religious (Primal, Islamic and Christian) concepts of creation and the role of humans in eco-care among the Sokpoe-Eve, to inform designing the African theology curriculum.
3. To outline a set of educational principles that may guide Christian higher education in Ghana to have a holistically missional approach and be morally transformative, from an analytic literary study on the history of Christian higher education over the past twenty centuries.

## 1.5 The Research Questions

The central question for this research has been: In what manner and to what extent has the curriculum, delivery and learning of Environmental Science (GNSP 101) as a general (mandatory) subject at PUCG been a Christian holistic mission strategy for influencing students' moral attitude toward the environment as a response to God's call, over the first ten years? For research purposes, this question was broken down further to provide practical and assessable parameters:

- a) How has PCG's philosophy of education as holistic mission been effective in influencing moral environmental responsibility at PUCG?
- b) What are the potentials in GNSP 101 curriculum (objective, content and delivery) for influencing moral environmental responsibility?
- c) What are the views and responses of students and faculty about GNSP 101 as designed and delivered at PUCG in influencing them in any way towards being environmentally responsible according to Christian understandings?
- d) In what way(s) can Presbyterian Church of Ghana pragmatically best fulfil the environmental policy in her holistic educational philosophy in college-level youth and young adults, in the light of African ecocrisis?
- e) What may be an effective alternative curriculum for environmental studies at PUCG, reflecting an African context, but with the potential or mindset of inspiring moral ecological responsibility in the students?

- f) What may guide African Christian higher educational institutes to use teaching methods that integrate Christian faith effectively in learning, particularly institutions with religiously plural contexts, like PUCG?

## 1.6 Literary Sources

The secondary literature to support and place the study in a proper perspective for analysis, interpretation and utilisation are from two major fields of study. These are *Christian Education* (particularly its historical unfolding and its functional purpose and principles of making us truly human) and *Ecology* (as science of understanding and conserving ecosystems; and as religio-ethical or 'theological' ways of shaping human behaviour to sustain ecosystem life).

### 1.6.1 Christian higher education: Holistic, Missional and Transformational Praxis in History

Chapter two examines the specific themes of concern in connection with a historical review of Christian higher education. These include its philosophies, purpose as holistic mission and transformational development, from educational history. The aim is to draw experiences from this historical understanding of education by the Church, as to why faith and learning have been integral in holistic education. Arthur F. Holmes' *Building the Christian Academy* surveys twenty centuries of higher education and observes that though historically higher education in Africa, Europe and North America has been the initiation of the Christian Church, we have over the twentieth century, witnessed its progressive secularisation. The ideas identified by Holmes, in relation to the historical characteristics of a Christian academy are analytically reviewed to provide this study with theological foundation for moral transformational education at higher school level.

In addition, I engage some chapters from Bryant Myers' *Walking with the Poor*, for the definition and principles of holism and transformational development;<sup>37</sup> while *Education in the African Church* by Esther L. Megill deals with questions of human development or transformation through education.<sup>38</sup> Similarly, contributions in the edited work of Andrew F. Walls and Ross Cathy, *Mission in the 21<sup>st</sup> Century Exploring the Five Marks of Global Mission* enlighten this study as a type of framework within which to understand holistic Christian mission by exploring not only what goes into a holistic mission, but also how education can be a mission strategy.<sup>39</sup> A contributor to this work, Gerald J. Pillay, argues that education is indeed a mission for which purpose church educational foundations and their institutes should not only refuse to be intimidated by secularisation, but also re-integrate theology in their curricula to make a daring difference in the twenty first century.<sup>40</sup> Similarly, Calvin DeWitt, on his part, discusses promoting earthkeeping as part of Christian mission in his article 'To strive to Safeguard the Integrity of Society and Sustain and renew the Life of

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<sup>37</sup> Bryant L. Myers, *Walking with the Poor - Principles and Practices of Transformational Development*, Revised ed., (Maryknoll, NY: Orbis Books, 2011).

<sup>38</sup> Esther L. Megill, *Education in the African Church*, (London: Chapman, 1976, 1981).

<sup>39</sup> Andrew F. Walls & Cathy Ross, (eds.) *Mission in the 21<sup>st</sup> Century - Exploring the five marks of global mission*, (Maryknoll: Orbis books, 2008).

<sup>40</sup> Gerald J Pillay, 'Education as Mission: Perspectives on some new opportunities,' in Andrew Walls & Cathy Ross, (eds.) *Mission in the 21<sup>st</sup> Century - Exploring the five marks of global mission*, (Maryknoll: Orbis books, 2008), pp. 165-174 (173).

the Earth.<sup>41</sup> To these references are added primary literature related to the topic and objective from journals and other available sources. The article of Andrew F. Walls on Christian scholarship in 21<sup>st</sup> century published in *Journal of African Christian Thought* is analysed for challenges and direction of Christian scholarship in the twenty first century.<sup>42</sup>

### 1.6.2 Christian higher education: Functional Principles and Curriculum Development

For a more comprehensive understanding of Christian higher education, chapter two further analyses concepts and principles about education as teaching and learning, particularly, *how* (the effective means by which) curricula are designed as well as delivery approaches adopting faith and learning integration methods. This is to inform development of the proposed African theology curriculum. Some examined concepts of how education or knowledge acquisition plausibly cause moral change in learners provide a 'framework [or paradigmatic indicators] for critically understanding'<sup>43</sup> how African theology as a general subject may motivate commitment to environmental responsibility. These are from Esther Megill's *Education in the African Church* (particularly the chapters on youth development and characteristics and curriculum development for college-level youth) and theories of teaching from internet sources. *Moral Linkage in Learning: A Practical Approach to the Integration of Faith in Learning* by Cephas Richard Narh provides information, which together with others from internet sources are analysed for religious texts and practices in Christian schools with a multi-religious student body, and best practices or approaches to integrating faith and learning in educational curriculum design and delivery.<sup>44</sup>

### 1.6.3 Ecology as 'Scientific Fact': Ecosystem, Ecocrisis and Eco-conservation

Chapter three analyses the literary sources that deal with the second major academic field for this study, ecology. The first part, 'Ecology as scientific fact,' places the ecological problem and objectives of the study in the global and local environmental situations to help explain the findings of the research. Therefore, it considers concepts and ideas relating to our environment as ecosystems, with emphasis on ecocrisis or the threats to life on planet Earth, as well as the development and importance of ecology as a science of ecosystems and their conservation for sustainability. I draw some ideas from *Environmental Science -The Global Concern*, by William Cunningham and Barbara Saigo<sup>45</sup> and *Environmental Science - The way the world works* by Benard J. Nebel and Richard T. Wright.<sup>46</sup> In these books, the authors present us with an opportunity to repair the damage we have caused to the natural world and to find more efficient and environmentally friendly ways of the goods and services we need, by first understanding the natural world and how it works. The books enable this study to

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<sup>41</sup> Calvin B. DeWitt, 'To strive to safeguard the integrity of creation and sustain and renew the life of the Earth (1)', in Walls Andrew F. & Ross, Cathy, (eds.) *Mission in the 21<sup>st</sup> Century - Exploring the five marks of global mission*, (Maryknoll: Orbis books, 2008), pp. 84-93.

<sup>42</sup> Andrew F. Walls, 'Christian Scholarship in Africa in the Twenty-first Century,' *Journal of African Christian Thought*, Vol. 4, No. 2, December, 2001, pp. 44-52 (48).

<sup>43</sup> Silverman, *Doing qualitative research*, p. 78.

<sup>44</sup> Cephas Richard Narh, *Moral Linkage: A Practical Approach to Integration in Learning*, (Accra: Combent Impressions, 2012).

<sup>45</sup> William P. Cunningham and Barbara Woodworth Saigo, *Environmental Science - A Global Concern*, 6<sup>th</sup> ed. (New York: McGraw-Hill Inc., 2001).

<sup>46</sup> Nebel, Bernard J. and Wright, Richard T., *Environmental Science: The Way the World Works*, 5th ed., (New Jersey: Prentice Hall, 1996).

define or explain terms related to the environment and summarise principles of environmental (ecological) science that explain how the natural world functions from scientific perspective. Some publications, especially reports of the Environmental Protection Agency (EPA) of Ghana are also analysed to appreciate the nature and level of ecological threat in Ghana and hence, Africa.<sup>47</sup> The chapter ends with an assertion that studying about the environment as scientific facts only is inadequate in stimulating missional and moral creation care; there is need to integrate religious ecology.

#### 1.6.4 Ecology as 'Theistic Faith': Religious Cosmologies and Ecologies

Therefore, chapters four, five and six analyse some sources for the theistic ecologies of African Primal, Islamic and Christian religions. My interest is to understand not only their theologies of the environment, impulsion for and praxis of ecological care, but also challenges implicit in religious ecological praxis vis-à-vis modernity. It is to enable me assess similar parameters in the field data gathered from PUCG and Sokpoe ecological communities in chapters seven and eight, respectively. The need for these sources is against the supposition that, as Matthew Clarke observes, not only does eighty percent of the world's population profess religious faith, but generally religious belief is pervasive, profound, persuasive and persistent in influencing social behaviours, yet has long been ignored in mainstream development paradigms.<sup>48</sup> While agreeing, I argue in chapter eight with evidences from my work among the Sokpoe-Eve that, ignoring religion in ecological development agenda is, perhaps, largely a result of ignorance of the religious people themselves about the pragmatic potentials in their religious teachings and praxis for creation care, and poverty. As I alluded to earlier in this section, for all the religious traditions the analytic review of literature focuses specifically on their worldviews, impulsion for and praxis of ecological ethics.

To this end and with respect to Christians the research analyses either some chapters or topics in the works of a number of authors for concepts about religious ecology and how religion, particularly Christianity, may influence environmental responsibility. These include *Ecology and Religion* of John Grim and Mary Evelyn Tucker,<sup>49</sup> Hans Schwarz's *Creation*,<sup>50</sup> Solomon Victus' *Eco-Theology and the Scriptures*,<sup>51</sup> Michael S. Northcott's *Moral Climate - the Ethics of Global Warming*<sup>52</sup> and Patrick Curry's *Ecological Ethics: An Introduction*.<sup>53</sup> With regard to the perspectives of African Christianity some major works were analysed. J. O. Y. Mante's *Africa: Theological and Philosophical Roots of Our Ecological Crisis*<sup>54</sup> proposes theories of perichoresis that could apply to explaining religious anthropologies of the Sokpoe-Eve in chapter eight. Harvey Sindima's article 'Community of Life: Ecological Theology in African Perspective' establishes African understanding of life as bounded to nature, though as I argue in chapter five, Africans' ethical relations with nature is

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<sup>47</sup> Environmental Protection Agency (EPA), p. 6.

<sup>48</sup> Mathew Clarke, *Development and Religion - Theology and Practice*, (UK: Edward Elgar Publishing Ltd., 2011), p. 1.

<sup>49</sup> John Grim and Evelyn Mary Tucker, *Ecology and Religion*, (Washington: Island Press, 2014), pp. 62-63.

<sup>50</sup> Hans Schwarz, *Creation*, (Cambridge: William B. Eerdmans Publishing Company, 200

<sup>51</sup> Solomon Victus, *Eco-Theology and the Scriptures: Revisit of Christian Responses*, (New Delhi: Christian World Imprints, 2014).

<sup>52</sup> Michael Northcott, *A Moral Climate: The Ethics of Global Warming* (London: Darton, Longman and Todd Ltd., 2007).

<sup>53</sup> Patrick Curry, *Ecological Ethics -An Introduction*, (Cambridge: Polity Press, 2011), p. 8.

<sup>54</sup> J. O. Y. Mante, *Africa: Theological and Philosophical Roots of Our Ecological Crisis*, (Accra: SonLife Press, 2004).

anthropocentric.<sup>55</sup> Ben-Willie Kwaku Golo's 'Redeemed from the Earth? Environmental Change and Salvation Theology in African Christianity' finds a problem with African Christian praxis of saving the human soul devoid of any ecological implications, and sees it as resulting from western heritage of salvation theology.<sup>56</sup> In addition is Birgit Meyer's *Translating the Devil: Religion and Modernity among the Ewe in Ghana*.<sup>57</sup> Although Meyer describes her ethnographic work as 'among the Ewe in Ghana' she actually investigates Christianity at the grassroots level specifically and mainly among the Peki-Ewe only. She focuses on the Christian evangelical message of the nineteenth-century German Pietist missionaries from the Norddeutsche Missionsgesellschaft (NMG), Bremen. Her concern is the factors that affected the response of the Peki-Ewe primal religious, whom she calls 'heathendom' or devotees of 'Ewe religion', to missionary Christian message. She realises that missionaries' misrepresentation of the Devil as 'outmoded superstition' did not only 'demonise Ewe gods and spirits', 'draw a boundary between Christianity and "Ewe Religion", but also expected discarding 'the image of the Devil in local appropriations of Christianity'.<sup>58</sup> But Birgit finds, contrarily, that the devil continues to occupy a significant place, either to be ignored or rather fearfully responded to appropriately, in the religious ecology of the Peki-Ewe Christianity. Her analysis and findings hold to a large extent also for the Sokpoe-Ewe Christians' ecological attitudes. Most Christians in Sokpoe ecological area were evangelised, at least initially, by the Basel Missionaries (BM); and, as Birgit explains, both the NMG and the BM were trained in the same school with same Protestant Pietistic theology and praxis. From ecological point of view, both Golo and Birgit imply that western missionary activity contributed significantly in the tendency of the Ewe Christians in Ghana, and hence Africa, to demystify and disenchant nature, with possibility of exploiting it without any religious and moral concerns.

In the case of the Islamic tradition the works analytically reviewed include several articles in *Islam and Ecology*, edited by Richard C. Foltz, Frederick M. Denny and Azizan Baharuddin. In this book, while Ibrahim Özdemir, for instance, presents 'Understanding of Environmental Ethics from a Qur'anic Perspective',<sup>59</sup> Seyyed Hossein Nasr's article 'Islam, the Contemporary Islamic World, and the Environmental Crisis' outlines both obstacles to realising implementing Islamic views of the natural environment and what to be done.<sup>60</sup> *My Neighbour's Faith: Islam Explained for Christians* by John Azumah explains basic Islamic teachings that could foster cooperation between Muslims and other religions for concerted ecological actions in religiously plural contexts.

For analysed information in African Primal religions Ogbu Kalu's article 'The Sacred Egg: Worldview, Ecology and Development in Africa,' and others in *Indigenous Traditions*

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<sup>55</sup> Harvey Sindima, 'Community of Life: Ecological Theology in African Perspective.' In Charles Birch, William Eaken and Jay B. McDaniel (eds.) *Liberating Life: Contemporary Approaches in Ecological Theology*, (Maryknoll: Orbis Books, 1990), pp.137-147. Also available at <http://www.religion-online.org/showarticle.asp?title=2327>. as at 16 November 2012.

<sup>56</sup> Ben-Willie Kwaku Golo, 'Redeemed from the Earth? Environmental Change and Salvation Theology in African Christianity,' *Scriptura* 111 (2012:3), pp. 348-361 (356). Also retrievable from <http://scriptura.journal.ac.za>.

<sup>57</sup> Birgit Meyer, *Translating the Devil: Religion and modernity Among the Ewe in Ghana*, (Edinburgh: Edinburgh University Press, 1999), p. xvii.

<sup>58</sup> Meyer, *Translating the Devil*: p. xvii.

<sup>59</sup> Ibrahim Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective' in Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), pp 4-37.

<sup>60</sup> Seyyed Hossein Nasr, 'Islam, The Contemporary Islamic World, and the Environmental Crisis,' in Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), pp. 85-105.

*and Ecology*, edited by John A. Grim;<sup>61</sup> Andrew F. Walls' 'African Christianity in the History of Religions' in *The Cross-Cultural Process in Christian History* as well as Harry K. Agbanu's unpublished PhD thesis 'Environmental Ethics in the Mafi-Eve Indigenous Culture'<sup>62</sup> are the major works examined. Kalu outlines a phenomenological structure and components of primal African religious worldviews.<sup>63</sup> However, Walls opines, agreeably, that the difference in dominating components challenges postulating there can be one, *the African, worldview*.<sup>64</sup> Agbanu's observation corroborates that of Kalu that the precarious vision of the world is the major impulsion for primal African eco-ethical praxis.<sup>65</sup> These works together with Harold Turner's idea of kinship with nature as a feature of primal religions that illustrates human interrelationship with the created world<sup>66</sup> are helpful in interpreting interview results of the primal eco-ethical thought and knowledge of the Sokpoe-Eve eco-community.

### **1.7 Intellectual Framework: The Concepts of 'Holism' and 'Transformational Development' in Christian Mission and Education**

From chapters two to six I deduced a few key works that are critical as the intellectual or interpretive framework of this study. The first is that of Bryant Myers, who, in his *Walking with the poor*<sup>67</sup> places emphasis on 'holism', and therefore, holistic mission, in a development programme, such as Christian higher education in this study.

Holism is the idea that the whole of something must be considered in order to understand its different parts.<sup>68</sup> Robert O'Callaghan suggested that the concept of holism in missions (and missional education for that matter) expresses a 'commitment to serve whole persons, body and soul, in all their relationships'.<sup>69</sup> For Myers, this includes 'relationships with God, self, community...and the environment'.<sup>70</sup> O'Callaghan also implies that relationships with the environment are part of holistic mission, for he cites Lesslie Newbegin who wrote that "Mission is concerned with nothing less than the completion of all that God has begun to do in the creation of the world and of humankind. Its concern is not sectional but total and universal."<sup>71</sup> Further, O'Callaghan states that holism in mission 'is not simply a method or strategy, but a theological mandate and a lifestyle of obedience in the way of Christ' and that it 'recognizes that the person is a whole, that society is a whole, that the world

<sup>61</sup> John A. Grim, ed., *Indigenous Traditions and Ecology*, (USA: Harvard University Press, 2001).

<sup>62</sup> Harry L. K. Agbanu, 'Environmental Ethics in Mafi-Eve Indigenous Culture,' (University of Ghana, Legon: Unpublished PhD Dissertation, 2011).

<sup>63</sup> Ogbu U. Kalu, 'Precarious Vision: The African's Perception of His World' in O. U. Kalu, (ed.), *Readings in African humanities: African Cultural Development*, (Nigeria: Fourth Dimension Publishers, 1980), pp. 37-44 (43).

<sup>64</sup> Andrews F. Walls, 'African Christianity in the History of Religions' in *The Cross-Cultural Process in Christian History* (Maryknoll, New York: 2002), p. 123.

<sup>65</sup> Agbanu, 'Environmental Ethics in Mafi-Eve Indigenous Culture,' pp. 95. 97.

<sup>66</sup> Harold Turner, 'The Primal Religions of the World and their Study,' *Australian Essays in World Religions*, (Bedford Park: Australian Association for the study of Religions, 1977).

<sup>67</sup> Bryant L. Myers, *Walking with the Poor: Principles of Transformational Development*, Revised edition, (Maryknoll, NY: Orbis Books, 2011).

<sup>68</sup> Oxford Advanced Learners' Dictionary, 8th edition, (Oxford: Oxford University Press, 2010).

<sup>69</sup> Robert O'Callaghan, 'What do we mean by holistic ministry?' Accessed 1/10/2012, <http://www.wordmadeflesh.org/the-cry/the-cry-vol-9-no-1/holistic/>

<sup>70</sup> Myers, *Walking with the Poor*, p. 201

<sup>71</sup> Lesslie Newbegin, *The Open Secret: An Introduction to the Theology of Mission*, Revised ed., (Grand Rapids, MI: William B. Eerdsman, 1998). Kindle edition, Loc. 767.



is a whole' because 'these entities cannot be subdivided too strictly into independent parts, for we cannot ignore the relationships between the parts that hold them together.'<sup>72</sup>

For Christian higher education, O'Callaghan's concept implies that holism is a theological disposition and commitment to the understanding that Christian educational curricula are corollaries of God's mission; and that both students and teachers need to be treated as non-compartmentalised and relational beings, whose relational needs are complex, including relations with all creation in an interconnected and interdependent world. The objective of Christian higher education as mission is 'holistic transformation', explained as 'redeeming the whole person toward the redemption of society'<sup>73</sup> or eco-communities in the kingdom of God.<sup>74</sup>

The understanding and implications of O'Callaghan's concept of holism for Christian higher education as mission is corroborated by Bryant Myers, a social development theologian. However, Myers' approach appears more pragmatic. For instance, it is inferable from him that an index of a holistic curriculum is its understanding of a person from his or her relationships with God, self, community and environment, palpable in its design.<sup>75</sup> This is because 'people as individuals are inseparable from the social systems in which they live.'<sup>76</sup> Further, Myers asserts that holism in Christian mission (such as missional education) is a state of mind or an attitude; it must be in the mind of the practitioner as a habit - a way of living, thinking, and doing. Creating this mindset is important because it is difficult to demand holism in the form of the programme itself.<sup>77</sup> He further explains that the best test for holism is a negative test. If there is no work directed at spiritual or value change; no work involving the church; no mention of meaning, discovery, identity and vocation, then the programme (or curriculum) is not holistic. In addition, the development promoter (in this case the educator or teacher) and the people (learners) must show holistic thinking.<sup>78</sup> The goal of holistic mission is 'changed people and changed relationships',<sup>79</sup> which, for Myers, like O'Callaghan, is also the goal of transformational development (TD), wherefore the end-product or indication of holistic mission is TD.

The concept of transformational development (TD) considers human progress as a lifelong process of effortful change within by 'renewal of mind' (Rom. 12:2), which then determines right relational behaviours without, to God, self, others and the environment. As Bryant Myers explains,

Transformational as adjective reminds us that human progress is not inevitable; it takes hard work... [*because*] transformation implies changing our choices...and that transformational development is a life long journey... which aims at developing appropriate lifelong relationships with God, self, community, and environment; [assessable in terms of the extent to which its goals are attained, namely], changed people have discovered their true identity and vocation, and also changed relationships that are just and peaceful.<sup>80</sup>

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<sup>72</sup> O'Callaghan, 'What do we mean by holistic ministry?'

<sup>73</sup> O'Callaghan, 'What do we mean by holistic ministry?'

<sup>74</sup> Myers, *Walking with the Poor*, p. 202.

<sup>75</sup> Myers, *Walking with the Poor*, p. 201.

<sup>76</sup> Myers, *Walking with the Poor*, p. 201.

<sup>77</sup> Myers, *Walking with the Poor*, pp. 201, 202. O'Callaghan also insists on holism in mission to be more of a 'lifestyle' See O'Callaghan, 'What do we mean by holistic ministry?'

<sup>78</sup> Myers, *Walking with the Poor*, pp. 200-202. By thinking holistically Myers implies holding holistic view of the gospel message, world, human beings and time (pp. 200-201).

<sup>79</sup> Myers, *Walking with the Poor*, p. 21.

<sup>80</sup> Myers, *Walking with the Poor* pp. 3, 201, 202 [*italics mine*].

In other words, for Myers transformational development (TD) necessarily requires and results from hard work in holistic mission;<sup>81</sup> and it manifests as total change - that is, change in all aspects of life: economic, social, political, spiritual, emotional, moral and environmental. Moreover, holism in TD process implies also it is aimed at all people as in holistic mission. It requires a conscious and pragmatic policy and programmes; and a need to work at it with patience over a long time, and measured with appropriate development practice tools and indicators. The study analysed Bryant Myers' indicators for holism and transformational development tendencies palpable in the PCG educational policy as the mind-frame of the policy-makers; as well as the attitudes of both lecturers and students, respectively, to the teaching and learning of GNSP 101 at PUCG.

The second interpretive key is from Esther Megill's suggested guidelines for evaluating Christian education curriculum.<sup>82</sup> In her book *Education in the African church*, Esther Megill uses two concepts: developmental principles and socio-cultural theories of education. Developmental principles consider that individuals develop by resolving learning tasks at various stages in life (towards realising their identity as humans in the image of God, with a responsible vocation).<sup>83</sup> Therefore, the Christian educational curriculum needs to be mindful of who the learner is *to be* and what he/she needs at various points and meet them. This calls for flexibility in both the curriculum design<sup>84</sup> and the delivery method. In addition, socio-cultural theory argues that individual learners cannot be considered in isolation from their social and historical contexts and, therefore, it is necessary to look at the society and the development occurring at a given time.<sup>85</sup> Both the family and school are two principal contexts, which draw from the wider social and cultural systems into which they are embedded, to powerfully shape their learning experiences.<sup>86</sup> The implication for Christian higher education is for the curriculum to pay attention to the global and individual needs of the learner from the perspectives of and by enabling participation in the life of a Christian community. With this understanding, I derived a five-point approach to evaluating a Christian higher educational curriculum - in this case the Environmental Science (GNSP 101) - from the suggestions of Megill.<sup>87</sup> The works of both Meyers and Megill are significant for interpreting the first part of the research in chapter seven.

In addition, there is the need for theories fundamental to attaining the study objectives: rethinking fulfilling PCG's environmental policy in academia, and restructuring the Environmental Science course (GNSP 101) as African theology. I explored Cephas Narh's *Moral Linkage in Learning*<sup>88</sup> for a practical approach to integrating faith in learning in a Christian tertiary institution with religiously plural student bodies and faculties. Narh strongly believes, rightly, that faith has been a form of learning, and hence, part of Christian higher education from the first century CE until refuted by Enlightenment and secularisation theories in the nineteenth century CE. He then provides suggested modules for re-integrating faith in Christian higher learning in the twenty-first century CE. This and other works are to guide the designing and suggested delivery of the envisaged African theology such that

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<sup>81</sup> Myers, *Walking with the Poor*, 2011, p. 200.

<sup>82</sup> Megill, *Education in the African Church*, pp. 201-202.

<sup>83</sup> Megill, *Education in the African Church*, p. 201.

<sup>84</sup> Megill, *Education in the African Church*, p. 201 defines design of curriculum as deciding on the sequence and frequency of activities and experiences by which the learning task is undertaken.

<sup>85</sup> Sólrún B Kristinsdóttir, 'From Theory to Application' Síðast uppfært 21.10.2008 [accessed 28/August/2014] <http://mennta.hi.is/starfsfolk/solrunb/cognitiv.htm>

<sup>86</sup> Kristinsdottir, 'From theory to application.'

<sup>87</sup> Megill, *Education in the African Church*, p. 202.

<sup>88</sup> Cephas Richard Narh, *Moral Linkage in Learning: A Practical Approach to the Integration of in Learning*, (Accra, Ghana: Combent Impressions, 2012).

both its religio-ethical contents and pedagogical approaches preserve its potential to provide impulsion for earthkeeping in *all* the religiously plural students.

Consequently, I analysed relevant chapters in Patrick Curry's *Ecological Ethics* to provide key conceptual ideas/factors for re-evaluating and reconstructing some plausible African Christian ecological ethics from African indigenous knowledge systems, Christian and Islamic sources.<sup>89</sup> Patrick Curry shows in his book that a new and truly ecological ethic is both possible and urgently needed.<sup>90</sup> With this assertion, he introduces and discusses many (if not) all the major concepts needed to understand the full range of ecological ethics. He describes these major concepts as light green or anthropocentric ethics such as stewardship, mid-green or intermediate ethics of animal liberation and dark or deep green ecocentric ethics. Curry's views on ecological ethics are very radical and critical of anthropocentrism in favour of ecocentrism. From African eco-cultural point of view, however, I argued instead for theocentrism. My position is supported with evidences obtained from the African Primal, Christian and Islamic ecological views analysed from both literary and oral sources. These works enabled analyses and interpretation of the results of the second part of the research in chapters eight, nine and ten.

## 1.8 The Methods Employed in the Research

I used qualitative methods with a specific focus on 'action evaluative' qualitative research. According to Allan Glatthorn, in this method the researcher is partly 'involved in the process of identifying and solving an educational problem'<sup>91</sup> such as the one stated earlier for the current research. To avoid as much bias as possible, my involvement has been limited to only objective references to my experiences and actions as a one time teacher of environmental science at PUCG, where they necessarily relate to and provide insight to aspects of the study. The research was based on both literary and oral data. For the first part - the holistic missional education at PUCG - I analysed issues relating to the educational ideologies of the Presbyterian Church of Ghana (PCG) as the founding church of the Presbyterian University College, Ghana (PUCG). I also examined documents relating to the institutional conception, vision, mission and strategic plans of PUCG. I accessed these primary documents related to both the church and the university from the offices of the Registrar, President as well as the library of PUCG at Abetifi. Some of the documents are from my personal collections of issues discussed at academic board and Senate meetings, which are available to me as a staff and head of the Chaplaincy Centre of the university. In addition, I examined the doctoral thesis of Seth Asare-Danso's 'Historical Analysis of the Effects of Educational Acts on Basel Mission Education in the Gold Coast/Ghana (1950-2007)' from University of Ghana, Legon: Department of Religious Studies,<sup>92</sup> for data on PCG and her educational concerns and involvements over the years.

Apart from the secondary sources, I also collected, collated and analysed qualitative evidence related to teaching and learning GNSP 101 from questionnaires and interview

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<sup>89</sup> The new African Christian ecological ethics shall constitute the third component of the envisaged African Christian Theology, the others being Ecology as science of ecosystems and Ecology as conservation Science.

<sup>90</sup> Curry, Patrick, *Ecological Ethics-An Introduction*, 2nd ed., (Cambridge, UK: Polity Press, 2011).

<sup>91</sup> Glatthorn, *Writing the winning dissertation*, p. 77.

<sup>92</sup> Seth Asare-Danso, 'Historical Analysis of the Effects of Educational Acts on Basel Mission Education in the Gold Coast/Ghana (1950-2007)', (Unpublished PhD Thesis, UG, Legon, 2011).

responses.<sup>93</sup> In most cases, permitted audio recordings<sup>94</sup> of interviews and conversations were used to cross-check and to ensure 'precise transcripts of naturally occurring interactions'<sup>95</sup> with respondents. In both questionnaires and interviews I used open-ended questions to solicit responses from a total of one hundred (100) learners. They were made up of twenty (20) alumni and eighty (80) continuing students, who have gone through GNSP 101 course, at Okwahu and Akuapem campuses, to assess the knowledge and moral motivation of students for environmental responsibility.

I purposively selected ten alumni serving as university staff at Okwahu and Akuapem campuses, because they were relatively easier to access than the rest. But I took advantage of home-coming of the other ten during one of the graduation ceremonies during the research period to interview them upon their volition when contacted. The continuing students interviewed were from the three academic departments at the Okwahu campus: fifty (50) from the departments of Business Administration (BA), seven (7) from Information-Communication-Technology/Maths (ICTM), and seven (7) from Agribusiness Department (AgBus).<sup>96</sup> At Akuapem campus thirteen (13) continuing students from the Department of Rural and Community Development (RCD), and three (3) from the Environment and Natural Resource Management (ERMP) Department were interviewed.<sup>97</sup> In each department, the participants volunteered upon my requests to the class. While most of the interviews were on one-on-one basis, within an average of fifty to sixty minutes, questionnaires were answered within the same time frame by other volunteered participants in class after a regular academic session. Thus, for reliability of responses care was taken to avoid a feeling of being under an exam situation.

In addition to the learners, two out of the other four lecturers (apart from me) who taught GNSP 101 in the university within the period under review, at both Okwahu and Akuapem campuses were also interviewed. A third one, however, participated by submitting written responses on a questionnaire carrying the same questions, through email within a month. Their responses were useful as further evidence to determine the strength (or otherwise) of deductions and inferences from those of the students, and vice versa. Ethical concerns of anonymity and confidentiality were addressed and all the people interviewed signed statements agreeing to the use of their names in the thesis if necessary.<sup>98</sup>

For analysis of the data I have found the theoretical frameworks of 'holistic mission' and 'transformational development' helpful as intimated earlier in this chapter. I, therefore, assessed for evidences of holism in both the church's educational ideologies assembled as well as the design (objective and contents) and delivery of GNSP 101 in the light of Bryant

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<sup>93</sup> The study adopted interview as a data collecting method/instrument not only because it helps 'understanding experience' of respondents, but also for all of us 'interviews seem central to making sense of our lives' according to George Janvier. Commenting about Nigeria, and hence, Africa, George Janvier observes that our (African) culture employs face-to-face discussion of 'opinions verbally; therefore 'interview...comes naturally for many people in the African setting.' See George Janvier, *How to write a theological research thesis*, (Kaduna, Nigeria: Baraka Press, 2000), p. 64.

<sup>94</sup> The audio recordings was done with Sony IC Recorder, ICD-UX200, (China: Sony Corporation, 2009).

<sup>95</sup> Silverman, *Doing qualitative research*, p. 90.

<sup>96</sup> The Departments of Information Communication Technology and Agribusiness had relatively lower student population sizes than those of Business Administration .Hence, the proportionally reduced numbers of participants.

<sup>97</sup> The responses of the ERMP student participants shall provide evidence for qualitative comparative analysis of the transformational tendencies in students studying Environmental Science as major and those offering it as a minor.

<sup>98</sup> In discussing the ethical issues one primal religionist, Kofi Avinyo Atiglo, (interview, Sokpoe, 15 February 2016) remarked: 'Since what I say is the truth as I know it why must I not be cited?' Another, Enyi Avenogbo, (interview at Sokpoe-Elavanyo, 2 February 2016) asked: 'How else will people elsewhere know I have contributed to your work?'

Myers' indicators of mindset and commitment to mindset to influence moral transformational development of students, particularly, in studying environmental science as a general course. In addition, I determined Christian tone of the course content and means of students' performance assessment with the evaluative points derived from Esther Magill's guidelines for Christian curricula. Finally, I analysed qualitatively the orally reported changes in attitude of students towards the environment, together with corroborations or otherwise from teachers interviewed, as evidences of the potential of the course for moral transformational development. The findings informed the recommendations, design and approach of the second part of the research - the religious ecologies of the Sokpoe-Eve ecological area - toward formulating the proposed African theology as alternative curriculum to GNSP 101.

The second part of the research was based on the understanding that the cosmologies and ecologies of various religious traditions, particularly Primal, Islam and Christian in Africa, are helpful for the purpose of the study's goals. The need to understand the theological perspectives of religions other than Christianity in this study is because, as Patrick Curry observes, we live in a 'plural world' (a world of diverse views on same issues),<sup>99</sup> which means that values and ethical praxis sometimes conflict, with no ideal (generally accepted absolute) or painless resolution in the pluralistic context. In my view, this implies that pragmatic religious ecologies need to accommodate as many virtuous ideals as possible, especially 'where there is real potential common ground on a particular issue'<sup>100</sup> although they may possibly not accommodate all. Accommodating other virtuous ideals demands that we first understand them even if we do not agree with them; then we may learn from them and use scriptures to interpret them to determine their relevance for Christian eco-ethics and praxis.<sup>101</sup> In an article about the theology of religions, David Thang Moe suggests some reasons why Christians can learn or share ideas with other faiths in practical missional endeavours, which can hold for missional ecological education.<sup>102</sup> Moe's suggestions in section IV of the article imply that in missional ecological education in a pluralistic religious context, we need to:

- (1) prioritise humanity over religiosity, seeing them first as also made in the image of God (Gen. 1:27), though people cannot be separated from their religions;
- (2) appreciate the pointers to gospel in their eco-cultures as *praeparatio evangelica*, having also been made in God's image, and in the process identify how to link the gospel to or insert it into and hope to transform their eco-cultures, rather than destroy them totally by considering them as *tabula rasa*. In this way, 'some little truths, lights, values and ethical teachings of their religions', about creation and the role of humans in it, 'could help them develop their transforming lives' if they continue them under the power and illumination of the Holy Spirit.
- (3) recognise the indispensability of other religious eco-values, their daily ecological experiences and use of signs and symbols, for translating the gospel and engaging them in developing local Christian ecologies. The caution, however, is to maintain the integrity of the gospel and uniqueness of Christ in using the signs and symbols to translate the ecological gospel.
- (4) face the fact that despite their theological differences, other faiths may have eco-ethical perspectives that are similar to and from which Christians may learn, or vice versa.<sup>103</sup>

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<sup>99</sup> Patrick Curry, *Ecological Ethics-An Introduction*, 2nd ed., (Cambridge, UK: Polity Press, 2011), p. 156.

<sup>100</sup> Curry, *Ecological Ethics-An Introduction*, p. 156.

<sup>101</sup> Curry, *Ecological Ethics-An Introduction*, p. 156.

<sup>102</sup> David Thang Moe, 'A Trinitarian Theology of Religions: Themes and Issues in Evangelical Approaches,' *Evangelical Review of Theology*, Vol. 41, No. 3, July 2017, pp.234-253 (pp. 248-252).

<sup>103</sup> Moe, 'A Trinitarian Theology of Religions.' pp.234-253 (pp. 248-252).

In order to gain the Primal theological perspective and praxis of ecology I analysed data from written and oral sources from my ethnic group, the Tɔ̃nu Ewe, specifically the Sokpoe-Ewe in the South Tɔ̃nu District in Volta Region, Ghana. I chose this research area just because of my cultural familiarity, which could facilitate the process as well as deepen my understanding of views collated. Moreover, apart from the work of H. K. Agbanu on the Mafi-Ewe in North Tɔ̃nu, which itself focused on only the indigenous environmental ethics, there is no known work on the religious ecology *per se* in the whole of the Tɔ̃nu ecological zone. Significantly, there is no report on the entire Tɔ̃nu ecological zone indicating all three major religions - Primal, Islam and Christianity - involved in a single study, be it comparative or phenomenological, as in the current project.

A total of one hundred participants were in this second phase of the research work. They were all middle to old aged people<sup>104</sup> in the ecological area comprising of twenty five (25) Primal religionists<sup>105</sup> thirty two (32) Muslims and forty-three (43) Christians. The Muslims belong mainly to Al-Sunni major Islamic group with some organised in the Sufi movement of Al-Tijaniyya order. Yet in each village they all worship under one Imam in one mosque. The Christian participants belong to six denominations in the eco-area, namely Presbyterian Church of Ghana (PCG), Christ Evangelical Mission (CEM), Church of Pentecost (COP), Apostolic Revelation Society (ARS), the Divine Healing Church of Christ in Christ (DHCCC) and the Roman Catholic Church. They were interviewed individually, except for three panel-groups of five, on average.<sup>106</sup>

The retrieved religious eco-data from the responses - worldviews, impulsion for and praxis of eco-ethics - were evaluated, in the case of Christians, with biblical/Christian theological reflections. The PhD thesis of Harry Lawson Agbanu on 'Environmental Ethics in Mafi-Ewe Indigenous Culture' was significant in providing examples of primal ecological ethics and procedures of retrieving and analysing the primal data. I have earlier indicated that Birgit Meyer's work among the Peki-Ewe enhanced deducing some explanations for the Sokpoe-Ewe Christians' ecological attitudes, particularly based on the fear of the devil in their ecosystems. Similarly, the Qur'an and other related literary sources enabled drawing inferences on the Islamic perspectives of the data about the environment. Personal interactions with Cephas Narh of Central University College, Ghana, enlightened me the more on the practical aspects analysed from his book *Moral Linkage in Learning: A Practical*

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<sup>104</sup> I chose to rely more on the 'elderly' people as my interviewees because they are more likely to provide authentic local ecological information based on long years of contact with and experience of the local natural settings of the environment prior to the changes due to many developmental alterations in modern times. Patrick Curry believes that 'people who lived longest on their lands and love them will tend to be those who know its ecology best, including how to live sustainably on its terms, and to pass on that knowledge down the generations in culturally transmitted forms.' (See Patrick Curry, *Ecological Ethics*, p. 176).

<sup>105</sup> The importance of ecological ethics from local or traditional sources cannot be overemphasised, because as noted by EPA, 'To meet all these challenges [of environmental degradation in Ghana] we need to generate knowledge and understanding including scientific knowledge through research and *tacit knowledge resident with the local people living with the natural resources*.' See EPA, 'National Programme On Sustainable Consumption And Production (SCP) For Ghana (2011-2016) Volume 2 Final Report', italics s mine). In addition, Curry suggests articulation of ecological ethics based on 'what is ecological and ethical in what people already value, know and do where they are.' (See Curry, *Ecological Ethics*, p. 174).

<sup>106</sup> These were circumstantial groups. The researcher visits a recommended informant, but meets other people who qualify to participate, although having no prior notice and may not be accessible thereafter. For lack of time and space all were constituted into a group upon agreeing to participate. However, each was encouraged to respond and did so separately to same questions posed to all with his/her own opinions like panelists. Thus the varied and candid individual opinions rather than group consensus on issues were recorded.

*Approach to the Integration of Faith in Learning.*<sup>107</sup> This was fruitful in grounding me in the principles and praxis of faith-learning pedagogy.

The literary review of Christian higher education now follows in chapter two.

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<sup>107</sup> Cephass Richard Narh, *Moral Linkage: A Practical Approach to Integration in Learning*, (Accra: Combent Impressions, 2012).

## CHAPTER 2

### HISTORY OF HIGHER CHRISTIAN EDUCATION AS HOLISTIC MISSION AND MORAL TRANSFORMATION

#### 2.1 Introduction

To put this study in perspective, within academic fields for analysis, it is expedient to answer two fundamental questions: the first is 'what is Christian higher education and how does it serve as holistic mission for moral transformation?' and the second, 'what is environmental science (particularly GNSP 101 at PUCG) and how can it influence moral responsibility of students for creation care?' In this chapter, I shall attempt answering the first question by examining briefly the history of the philosophy and praxis of Christian higher education over the past twenty centuries. The aim is to deduce the concept of Christian higher education over the period. My focus shall be sustained by asking what problems and what major concerns guided higher educational thought and practice.<sup>1</sup>

In other words, I seek to identify the characteristics of Christian higher education in terms of the philosophical foundation for its purpose and praxis especially pertaining to controversies between theology and science. Ultimately, the effort is to help appreciate and deduce plausibly effective missional contents and approaches to teaching and learning environmental science in the twenty-first century African Christian higher academies, drawing on the historical experiences. An African (Eve) adage says '*ka xoxoanu wogbia yeyea qo*' (the old cord shows the process for twining the new). Hastings Rashdall, author of *Universities of Europe in the Middle Ages*, expresses a similar view in saying that 'some knowledge of the past is condition of practical wisdom in the present.'<sup>2</sup> The problems, purposes and undergirding ideologies of higher educational practice in the past may give us hints for today.

#### 2.2 Christian Higher Educational Thought and Praxis in History: An Analytical Review

In his historical survey to uncover what Christian tradition had contributed to higher education, but which has been lost,<sup>3</sup> Arthur Holmes began from the bible - the record of God's revelation of the principles that are good for our instructions or education on life (II Tim 3:16). Holmes draws extensive examples of learning experiences from both Old and New Testaments. He includes those educated leaders like Moses, Solomon, Daniel, Paul etc., and observes that from the bible, learning is undergirded by

the concern for moral character and faith development ("care of the soul"), along with the broad uses learning served. The unity of truth is apparent in the contributions of "secular" learning to the theocentric worldview of these individuals.<sup>4</sup>

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<sup>1</sup> Arthur F. Holmes, *Building the Christian Academy*, (Cambridge: William B, Eerdmans publishing, 2001), p. 2.

<sup>2</sup> Hastings Rashdall, *Universities of Europe in the Middle Ages* (UK: Oxford University Press, 1951). See also Holmes, *Building the Christian Academy*, p.1.

<sup>3</sup> Holmes, *Building the Christian Academy*, p. 1.

<sup>4</sup> Holmes, *Building the Christian Academy*, p. 5.



He then deduced 'the four emphases that were to shape [or characterise] higher education.'<sup>5</sup> These include (1) doxological contemplation on the (2) unity of truth from even secular learning, which enhances understanding of divine involvement in human circumstances and experiences, resulting in (3) development of faith and moral transformation for the (4) service that liberal study intends - both sacred and secular.

Holmes generalises the four emphases as together forming the purposes of higher education from a biblical point of view. However, for the sake of this study, envisaging the design of a missional academic curriculum, it may be necessary to further specify primary and secondary goals. It can be argued from Pauline expositions that biblically, Christian learning's ultimate purpose is to make us 'become mature, attaining to the whole measure of the fullness of Christ' (Eph. 4:13). This, to me, corresponds with 'the care of the soul' (that is moral and spiritual formation) in Holmes' analysis as the primary Christian higher educational purpose. This may be followed closely and actually influenced by 'knowledge of and faith in the Son of God' (Eph. 4:13) who is *the* Truth (John 14:6) or 'unity of truth'. 'Doxological Contemplation', then is more the means, rather than the ultimate purpose, of processing the 'unity of truth'; to 'care for the soul' or form it morally and spiritually. Again it may follow from Paul that the secondary purpose of Christian learning is 'service' since attaining the fullness of Christ is a 'preparation of God's people for works of service' (Eph. 4:13). The purpose of Christian learning from a biblical perspective then may be considered as primarily formative or transformational, improving the soul morally and spiritually; and secondarily utilitarian, for works of service. The educational approach is acquisition of knowledge of the truth by doxologically contemplating it. But for Holmes, agreeably, all these are possible only with a *theocentric* worldview. Similar inferences about the purpose, praxis and undergirding ideologies of higher education are discernible from the historical records of modern higher education over the past twenty centuries.

Historically, within the past twenty centuries, university studies or higher education in general originated with faith-based organisations.<sup>6</sup> In Africa and the West (Europe and North America), in particular, it began with 'a Christian academic tradition' that played a major role in both intellectual and church histories.<sup>7</sup> According to Arthur Holmes, Pope Clement I of Rome introduced the term 'Christian education' about the first century CE, based on the idea of '*paideia*' in Eph. 6:4; 2 Tim. 3:16 and Gal. 3:24. However, its application to higher education began in the third century CE at Alexandria in North Africa. Higher education was then known as Advanced or Extended Catechetical Studies.<sup>8</sup> The key persons involved at this stage were Titus Flavius Clement and Origen, with Clement as the head of the Catechetical School at Alexandria at the close of the second century.<sup>9</sup> The nature or type of education could be described as broad, general, holistic or liberal education (*enkukliospaideia* = encyclopaedia), adapted from the Aristotelian educational system of the Greeks, to indicate education for free citizens rather than slaves.<sup>10</sup>

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<sup>5</sup> Holmes, *Building the Christian Academy*, p. 2, found four recurring emphases, which he took to be the heart and soul or chief purposes of the Christian academy. 'The usefulness of liberal arts as preparation for service to both church and society; The unity of truth; Contemplative or doxological learning and The care of the soul (what we call moral and spiritual formation).'

<sup>6</sup> Pillay, 'Education as Mission', p. 166. Pillay indicates that 'the much older Buddhist universities in the East at Toxila and Nilanda were also inspired by religious faith'.

<sup>7</sup> Holmes, *Building the Christian Academy*, p. 1.

<sup>8</sup> Holmes, *Building the Christian Academy*, p. 8.

<sup>9</sup> Alexander Roberts and James Donald, 'Introductory Note to Clement of Alexandria' in *Ante-Nicene Fathers, Vol. II, Fathers of the second Century*, (Grand Rapids, Michigan: Wm. B. Eerdmans Publishing Company, 1989), p. 166.

<sup>10</sup> Holmes, *Building the Christian Academy*, p. 10.

The need for an Alexandrian liberal education was based upon a concern for the youth to remain true Christians and free citizens in every generation. Therefore, the focus was on human formation through provision of catechetical instructions that influenced development of Christian faith and cultivation of Greek cultural virtue.<sup>11</sup> The undergirding ideology for attaining the educational goal by the third century was the theology of the unity of truth - truth is universal and unchangeable. Science was studied as natural philosophy, particularly astronomy welded to theology. The natural philosophers insisted that genuine understanding of the natural order or laws demanded explanations of the cause, and would attribute it all to God, by faith. According to Leslie Pearce Williams this explains why and how theology, welded solidly to astronomy, became the queen of the sciences,<sup>12</sup> and both scientific and religious studies were integrated for the unity of truth in the first three centuries CE and beyond.<sup>13</sup>

The key educational ideologist in the fourth and fifth centuries was St. Aurelius Augustine of Hippo in North Africa. His concern for education was the perceived lack of emphasis on truth and goodness in the then Roman rhetoric education.<sup>14</sup> The educational purpose or goal, as in the previous century, was human formation: to improve the soul for divine service in church and society by enabling one to discover the truth, find God through faith and contemplate the wisdom that comes from him. The nature or type of education remained the general or liberal education, but now based on Augustinian theologies of education that the order in creation is the basis for all human learning.<sup>15</sup> Truth in learning is all about God, because he is the 'being that by which everything is true that is true.'<sup>16</sup> Both the learner and subject needs to be morally right<sup>17</sup> although 'God's grace is the source of truthful insights that arise even outside Christian scholarly endeavour.'<sup>18</sup> Moreover, learning is effectuated when the learners first see or trust how and willing that the wisdom they seek regulates their lives.<sup>19</sup> Science continued to be studied as astronomy 'welded to theology' as 'the firstborn of philosophy'.<sup>20</sup> However, the Greek science that influenced Augustinian educational theology suffered near collapse in the Latin Roman Empire until salvaged in the twelfth century CE by Islamic educational legacies.<sup>21</sup>

Thus, until the Middle ages (1000-1450 CE), higher education was almost entirely the church's province. There were neither public nor private universities until the mid-twelfth century (1142 CE) when some scholars like Peter Abelard began to pursue learning and teaching on their own, independently of the monastery and cathedral schools,<sup>22</sup> in France. Between the 12<sup>th</sup> and 15<sup>th</sup> centuries CE, Peter Abelard and St. Thomas Aquinas were among

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<sup>11</sup> According to Holmes, *Building the Christian Academy*, p. 10, Greek virtue is high moral and excellent intellect that enables realising one's complete human life potentials reasonably.

<sup>12</sup> Leslie Pearce Williams, 'History of science,' p. 1, Accessed 24/10/2014, <http://www.britannica.com/EBchecked/topic/528771/history-of-science>.

<sup>13</sup> Andrew Walls, 'Christian Scholarship in Africa in the Twenty-first Century,' *Journal of African Christian Thought*, Vol. 4, No. 2, December, 2001, pp. 44-52 (48).

<sup>14</sup> Holmes, *Building the Christian Academy*, p. 23.

<sup>15</sup> Holmes, *Building the Christian Academy*, p. 25.

<sup>16</sup> Aurelius Augustine, 'On Soliloque, 29', in Philip Schaff, ed., *The Nicene and Post-Nicene Fathers of the Christian Church*, Vol. VII, *St Augustine: Homilies on the Epistle of John and the Soliloquies*, (Grand Rapids, Michigan: Eerdmans publishing Company, 1991), p. 556.

<sup>17</sup> Holmes, *Building the Christian Academy*, p. 28.

<sup>18</sup> Bong-Ho Son, 'The Relevance of A Christian Approach', in *Christian Education in the African Context: Proceedings of the African Regional Conference of the International Association for the Promotion of Christian Higher Education, Harare 4-9 March, 1991*, (Grand Rapids: IAPCHE, 1992), p. 2.

<sup>19</sup> Holmes, *Building the Christian Academy*, p. 29.

<sup>20</sup> Williams, 'History of science,' p. 2.

<sup>21</sup> Williams, 'History of science,' p. 5.

<sup>22</sup> Holmes, *Building the Christian Academy*, p. 47.

the very significant conceivers of higher education philosophy. Arthur Holmes describes the educational ideology at this time as 'scholasticism',<sup>23</sup> which was characterised by logically organised disputations to obtain truth.<sup>24</sup> The need for this system arose from the difficulty in ascertaining the truth in learning, because 'previous uses of the liberal arts were being challenged by new teaching methods and previous explanations by new ideas [including Islamic thoughts].'<sup>25</sup> The new guild of scholars, described as 'Christian Aristotelians',<sup>26</sup> questioned the authoritative use of works of the church fathers, the literal, moral and allegorical interpretations of scripture and rhetorician's emotional influences in teaching. Consequently, the purpose of scholastic education was to pursue objectivity (universal and unchanging nature) of the truth and the good, through free enquiry and strident dialectical contention - i.e. logically organised disputations. Using the dialectical approach, Aquinas argued that the distinction between reason and revelation does not make theology less scientific.<sup>27</sup> Hence, Holmes infers that reason and revelation are neither mutually exclusive nor opposed to each other, because reason can help construct supportive arguments of 'a probable' sort for truths known by divine revelation. Both are God's means of making us know the only one truth - God's truth.<sup>28</sup> For Aquinas the essential thing is that Christian learning needs to bring with it moral responsibility for its wise and good use of both abilities and intellectual virtues like wisdom and prudence.<sup>29</sup> Generally, as Pearce Williams concludes, 'the glory of medieval science was its integration of science, philosophy, and theology into a magnificent and comprehensible whole.'<sup>30</sup>

By early sixteenth century CE, many classical humanistic Christian scholars could not associate with the Aristotelian scientific and logical emphases in higher education, and so

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<sup>23</sup> Holmes, *Building the Christian Academy*, p. 47.

<sup>24</sup> Holmes, *Building the Christian Academy*, p. 52.

<sup>25</sup> Holmes, *Building the Christian Academy*, p. 47. See also L. Pearce Williams, p. 4, which explains the situation with Islam and science from the 7th to thirteenth centuries. During this time, the Arabs did not only lay the foundations of an Islamic empire that eventually rivalled Rome, they greatly treasured and employed ancient science, with a strong Islamic theology. They believed Astronomy and astrology to be one way of glimpsing what God willed for humankind. Contact with Hindu mathematics and the requirements of astronomy stimulated the study of numbers and of geometry. So they eagerly sought and translated most of Hellenic writings. Thus, while Romans, finding no practical usage, downplayed much of the science of antiquity, it passed into Islamic culture. Greek medicine, Greek astronomy and astrology, and Greek mathematics, together with the great philosophical works of Plato and, particularly, Aristotle, were assimilated in Islam by the end of the 9th century and beyond. In 1085, the city of Toledo, with one of the finest libraries in Islam, fell to the Christians. Among the occupiers were Christian monks who quickly began the process of translating ancient works into Latin. By the end of the 12th century, much of the ancient heritage was again available to the Latin West.'

<sup>26</sup> The Christian Aristotelians were scholars who discovered the aspect of Aristotelian philosophy of education that employed deductive logic to ascertain truth in the sciences, metaphysics and ethics. Critical approach to scientific learning through disputation actually had earlier began with Anaximander, a student of Thales of Miletus, the first Greek natural philosopher in the sixth century BCE. (Pearce Williams, p. 2). Aristotle must have developed this idea of logical criticism into his syllogistic disputations in the study of science. According to Arthur F. Holmes, *Building the Christian Academy*, p. 49, 'Up until this point, Christian scholars knew little of Aristotle's work beyond his writings about dialectic; his works on deductive logic, the sciences, metaphysics and ethics were only known in the Moslem world.' The Emphasis of the Christian Aristotelians on scientific and logical deduction was, therefore, greatly at variance with the humanist tradition of Christian education.

<sup>27</sup> Pearce Williams was certain that generally, there was no conscious conflict between science and religion in the Middle Ages. As Aquinas pointed out, God was the author of both the book of Scripture and the book of nature. The guide to nature was reason, the faculty that was the image of God in which humankind was made. Scripture was direct revelation, although it needed interpretation, for there were passages that were obscure or difficult. The two books, having the same author, could not contradict each other. For the short term, science and revelation marched hand in hand. (See Williams, 'History of Science,' p. 5).

<sup>28</sup> Holmes, *Building the Christian Academy*, pp. 55.

<sup>29</sup> Thomas Aquinas, *Summa Theologica*, I-II, q. 57. See also Holmes, *Building the Christian Academy*, p. 53.

<sup>30</sup> Williams, 'History of science,' p. 5.

curbed the freedom of the Aristotelians from teaching for half a century.<sup>31</sup> In Germany, the Aristotelians lost hold of the universities by 1535 CE.<sup>32</sup> Thus during the Reformation, two hundred years after its emergence, scholasticism's *via nova* (syllogistic approach to) education was challenged and classical learning's *via antiqua* (reflective literary exposition) revived.<sup>33</sup> Among the key educational reformers at this time were Martin Luther and Jean Calvin. Their concern was the need for scholarly leadership with virtue (including clergy and the laity - who should read the bible for themselves in their own language) to serve in all fields. Thus, Protestant Reformation education aimed at intellectual and moral development (i.e. to refine the mind and care for the soul),<sup>34</sup> and not just finding truth for its sake as in scholasticism. It was to make the learner a person with virtue and qualify for service in both church and civil society. Thus higher educational ideologies during the Protestant Reformation had blended aspects of scholasticism with the Augustinian humanism.

Like Luther, Jean Calvin made a distinction between the terrestrial and the celestial, and thereby between faith and learning. However, unlike Luther, he saw them both as being still under the sovereignty of Christ, the Lord of all creation.<sup>35</sup> Thus, he believed in the unity of truth<sup>36</sup> because, as Augustine showed, all truth has its source in God, and we are at liberty to borrow from anything that came from God.<sup>37</sup> In that case I believe Calvin would agree with the Christian scholastic Aquinas that science and theology are neither opposed to each other nor mutually exclusive, but are from one divine source and for one truth. Nevertheless scientific reasoning *per se* cannot lead to full knowledge,<sup>38</sup> because sin darkens reason's light; only gracious restoration to the image of Christ, the perfect humanity, will suffice.<sup>39</sup> By the end of the first quarter of the 17th century, 'Aristotelianism' was rapidly dying, but there was no satisfactory system to take its place. The result was a mood of scepticism and unease,<sup>40</sup> opening doors for 'Baconian science.'

According to Arthur Holmes, by the beginning of the 17<sup>th</sup> century the *Novum Organon* or 'new science' revolution started, with Francis Bacon, the Lord Chancellor of England, being the most influential voice. The Baconian scientists challenged both the humanists and scholastics (Aristotelian scientists) on grounds of not restoring humanity's dominion over creation to relieve our estate and glorify God. Patrick Curry describes Francis Bacon as one person who

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<sup>31</sup> Holmes, *Building the Christian Academy*, p. 56.

<sup>32</sup> Holmes, *Building the Christian Academy*, p. 61.

<sup>33</sup> Holmes, *Building the Christian Academy*, p. 57 explains that the teaching method of the scholastics had become disputation with its syllogistic reasoning, and called *via nova*. This was challenged by the *viaantiqua* of literary exposition in humanistic learning.

<sup>34</sup> Holmes, *Building the Christian Academy*, p. 57.

<sup>35</sup> Holmes, *Building the Christian Academy*, p. 67.

<sup>36</sup> John Calvin, *Complete Commentary I Corinthians 1:20-1:20*, accessed 7th April 2017,

<https://bible.prayerrequest.com/786-calvin-john-complete-commentaryexe/1corinthians/1/20/1/20/> In this commentary Calvin regards even what Paul calls 'worldly wisdom' as the 'chief gifts of God in this world. For what is nobler than man's reason, in which man excels the other animals? How richly deserving of honour are the liberal sciences, which polish man, so as to give him the dignity of true humanity!'

<sup>37</sup> Holmes, *Building the Christian Academy*, p. 65.

<sup>38</sup> Calvin, *Complete Commentary I Cor. 1:20*, holds the view 'that knowledge of all the sciences is mere smoke, where the heavenly science of Christ is wanting.' Similarly, A. D. Moffat, a Pathologist in Glasgow, in his preface to J. C. Cameron Peddie, *The forgotten Talent-God's Ministry of healing*, (London: Oldbourne Limited, 1964), p. 7, writing out of experience, agreed: 'Science is knowledge, perceived, understood and reduced to a system of facts acceptable to human mind. Within its own sphere the system is sound and fruitful, but the sphere's ambit is limited. The totality of truth is infinite and cannot be measured. Aspects of it, however, have been comprehended, but only in flashes of Divine Revelation.'

<sup>39</sup> Son, 'The Relevance of A Christian Approach', p. 2.

<sup>40</sup> Williams, 'History of science,' p. 7.

notoriously advised us that to ‘conquer and subdue Nature with all her children, bind her to your service and make her your slave’, she must be ‘pierced’, ‘vanquished’ and ‘put to the question’ (in other words interrogated under torture); the new science that results ‘will extend bounds of human empire, as far as God Almighty in his goodness shall permit.’<sup>41</sup>

With this concern, Baconian scientists formulated their educational purpose to develop knowledge that is full of hard-core facts or realities and so wholly objective, because we are directly aware of only physical things.<sup>42</sup> Knowledge must be universally the same, independent of preconceptions and religious differences, and therefore predictable, to service civil society and not the church, here on Earth. Learning must be utilitarian (what to do), transforming human condition by producing material benefits for humans rather than formative (what to be intellectually, morally, and spiritually). These educational goals were pursued with undergirding Baconian ideology that biblically, humankind fell from both the state of innocence and dominion over creation. We can partially repair these losses in our lifetime: loss of innocence by religion/faith and loss of dominating nature by the power of knowledge from the sciences and the arts. Educationally, the stage is thus set to contrast faith with knowledge, only the later regarded then as learning. Therefore, religion/theology is not relevant in doing science, but only in addressing conditions that made it possible and to the ends to which it is devoted.<sup>43</sup> Thus, faith and learning are not integrative; and there is no unity of truth since revealed truths and truths of reason could not integrate. The usefulness of science is thus in the physical value it adds to human estate. In this way, they believed, it glorifies God, being a type of the archetype of an action God manifested in creation. Baconian science approached teaching and learning by inductive methods for empirically exploring the created order. The objective was to trace the hidden causal regularities in fixed natural laws so that we could use them to control natural processes for human benefit.

The 17th century was also a time of intense religious feeling; the separation between theology and science did not imply no relationship between them. Francis Bacon's idea was to combine the new science with an improved humanistic education, thereby welding wisdom to scientific discovery. His inductive method was not supposed to displace liberal studies or to secularise learning, but was intended to improve physical and societal well-being.<sup>44</sup> However, the focus on utilitarianism and the mechanical arts (what we now know as technology and applied science), with rejection of theology's relevance in doing science, opened the doors to secularisation of learning.<sup>45</sup> All the same, according to Pearce Williams, by the end of the 19th century, the dream of the mastery of nature for the benefit of humankind, first expressed in all its richness by Sir Francis Bacon, seemed on the verge of

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<sup>41</sup> Curry, *Ecological Ethics*, p. 37.

<sup>42</sup> According to Holmes, *Building the Christian Academy*, p.75, Descartes' theory of indirect or representative perception had not yet taken over. Moreover, this was the time when the Reformation had created a vacuum of authority in matters on which scripture is silent, and Protestantism was torn by differing interpretations of the Bible. Everywhere there was obvious need for an objective, universally assured system of acquiring knowledge independent of divisive beliefs.

<sup>43</sup> Holmes, *Building the Christian Academy*, p. 76.

<sup>44</sup> Holmes, *Building the Christian Academy*, p. 90. See also Williams, 'History of science,' p. 8, Williams tells about the scientist Isaac Newton who showed how judicious use of scientific hypotheses could open the way to further experimental investigation until a coherent theory (p. 9) that suggests a 'probable' mind and act of God in nature, is achieved. Newton's scientific method was simple: “from the phenomena of motions to investigate the forces of nature, and then from these forces to demonstrate the other phenomena.” He was said 'to discover the way to a new synthesis in which truth was revealed and God was preserved.' This was to serve as the model for scientists in the eighteenth and early nineteenth centuries.

<sup>45</sup> Holmes, *Building the Christian Academy*, p. 77.

realisation, but it started to fall out before the close of the twentieth century, with calls to reverse to humanism or holistic education.

However, 'for many Christians engaged in learning and teaching in these circumstances, few alternatives were available, except to hide behind the dualism of faith and science or theology and secular scholarship'.<sup>46</sup> At best, many considered 'adding regular chapel services and lectures on the bible to the regular curriculum which are common to secular education'<sup>47</sup> as what made them Christian institutions. Significant among proponents of alternatives to secularised education were Joseph Henry Newman, the Jesuit Catholic and Abraham Kuyper, a Protestant reformist. Generally, as Holmes observes, the Jesuit Catholics seemed to have been more proactive in their response. Neo-scholasticism, based on Thomas Aquinas' ideas shaped Catholic higher education at this time. But Newman who moved, on doctrinal basis, from Anglican to Catholic and became the first rector of the Catholic university in Dublin, Ireland, promoted the classical humanism of pre-Enlightenment times. Newman's goals were to produce graduates with high intellectual ability and originality, as well as moral and spiritual formation for practical and useful services in the church and civil society.<sup>48</sup> For Newman university education should provide universal knowledge, characterised by integral relationships between faith, reason and revelation; and the importance of moral and spiritual development, particularly the necessity of theology in learning.<sup>49</sup>

Protestantism, on the other hand, had no scholarly order like the Catholics. Up to the mid-twentieth century their type of education described by Sir Walter Moberly, chairman of British Education Board, was 'scientific humanism' characterised by research more than teaching and for learning sake rather than student formation, because 'the whole complex of traditional belief, habit and sentiment, on which convictions are founded, has collapsed'<sup>50</sup> Mainline Protestantism could not integrate faith and learning, because of the Enlightenment ideal of autonomous reason that fragmented learning and made universities ignore ethical issues under the guise of neutrality and irresponsible detachment.<sup>51</sup> However, just before the turn of the twentieth century (1898), Reformed scholars like the Dutch theologian Abraham Kuyper recalled Augustine's faith seeking understanding. Kuyper reiterated a Calvinistic theology, which emphasised the Lordship of Christ over the entire universe and its implications in religion, politics, science and art. He argued that science is made possible by the law-structure God created, hence, broad areas of agreement exist between Christian and non-Christian scientists. According to Abraham Kuyper it is from this conviction that thought and action must begin; it forms the basis for Christian scholarship to confront secularism.<sup>52</sup> Obviously, as Arthur Holmes notes, the challenge was how the university and individuals serving in it could be the means of fulfilling Christian mission.<sup>53</sup>

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<sup>46</sup> Son, 'The relevance of Christian approach', p. 4.

<sup>47</sup> Son, 'The relevance of Christian approach', p. 4.

<sup>48</sup> Holmes, *Building the Christian Academy*, p. 88. Newman preferred this to those awarded degrees simply because they passed a set of examinations after being loaded with only bulky knowledge, social skills and technical expertise - who 'when their period of education is passed, throw up all they have learned in disgust.'

<sup>49</sup> Holmes, *Building the Christian Academy*, pp. 88 & 93.

<sup>50</sup> Sir Walter Moberly, *The Crisis in the University* (London: SCM Press, 1949), pp. 15-16. See also Holmes, *Building the Christian Academy*, p. 103; Hu-Lin, 'Rebuilding the University of Edinburgh After 1945,' *Forum*, Vol. 7, p. 29; Accessed 7th April, 2017.

<http://research.ncl.ac.uk/forum/v7i1/Hu-Lin-Rebuilding%20the%20university%20of%20Edinburgh.pdf>

<sup>51</sup> Holmes, *Building the Christian Academy*, p. 103.

<sup>52</sup> Abraham Kuyper, *Lectures on Calvinism*, (Grand Rapids: Eerdmans, 1931). See also Kuyper's *Principles of Sacred Theology*, trans. J. Hendrick de Vries, (New York: Charles Scribner's Sons, 1898), ch.2 and 3.

<sup>53</sup> Holmes, *Building the Christian Academy*, p. 102, states the questions as bothering on the task: To answer the questions: 'How can we as individuals serve God in the university' and 'how can the liberal democratic university itself be a witness to the glory of God?' To discover the meaning of a Christian vocation for a man or woman who is a chemist, sociologist, historian, psychologist, mathematician, and the like. To apply

Perhaps, to fulfil the task of Christian scholarship as mission some Reformed educationists began in the mid twentieth century to promote Kuyperian educational ideologies through the formation of the International Association for the Promotion of Christian Higher Education (IAPCHE). As its main educational theology, IAPCHE takes the Lordship and Sovereignty of God seriously. They insist that 'If God is sovereign, there can be nothing in any realm outside his dominion.'<sup>54</sup> Concerning higher education in particular, the preamble of the IAPCHE constitution states that:

Academic work is recognized as an expression of life and commitment to God the Creator, through Jesus Christ, in the power of the Spirit. Science and Scholarship cannot have a neutral, uncommitted character but should be pursued from a biblical perspective...The quest for truth in education and scholarship presupposes the meaningful character of the creation which is upheld by the Creator for the sake of His creatures.<sup>55</sup>

IAPCHE thus presents a unique interpretation of the biblical revelation that academic work is an integral part of a believers' total commitment to God, and that scholarship cannot have a neutral character.<sup>56</sup> In addition, the Holy Spirit has a role to play in Christian scholarship being the real teacher.<sup>57</sup> At the first Africa Regional conference of IAPCHE, held in Harare, Zimbabwe, in 1991, Dr. Boong-Ho Son of Seoul National University, spoke on the 'Relevance of a Christian Approach' to higher education. He explained that although 'the interpretation and understanding of truth is radically distorted by sin,'<sup>58</sup> because of which Augustinian theology of education suggests that there are moral and spiritual pre-requisites for acquiring wisdom,<sup>59</sup> yet the grace of God may enable even the less moral and spiritual scholar to gain some insights of the truth.<sup>60</sup> My difficulty, however, is how to determine whether a gained insight of truth is a product of God's grace rather than of the curse due to sin. For, as Boong-Ho Son observes, in practice, there is a growing sense that 'not just any scientific investigation is justified, but only those that would not produce threats to human survival and wellbeing.'<sup>61</sup> Thus, though this concept of the sovereignty of God and common grace 'is not unbiblical in itself', IAPCHE holds it as a theoretic abstraction, which 'is foundational, but not sufficiently directional' to show clearly 'the path that Christian high education should follow'<sup>62</sup> in the twenty first century.

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Christian criteria in working out the presuppositions which are relevant to the study of individual academic subjects; and to discover the place in a Christian *speculum mentis* of the knowledge given in such specialised subjects. To work toward an intellectual synthesis (i.e. unity of knowledge and truth) based on theology, for interpretation of human life and destiny. This was to be set against the scientific humanism and positivism of the time, and postmodernism's conclusion that both knowledge and truth are relative, that objective truth does not exist - no 'metanarrative'.

<sup>54</sup> Son, 'The relevance of Christian approach', p. 2.

<sup>55</sup> Son, 'The relevance of Christian approach', pp. 1-2.

<sup>56</sup> Son, 'The relevance of Christian approach', p. 2.

<sup>57</sup> In John 16 the Holy Spirit is the Counsellor (v. 7) who convicts of guilt in regard to sin, and righteousness in regard to judgement (v. 8); and as the Spirit of truth (v. 12) guides us into all truth (v. 13) and makes known all that belongs to God the Father (v. 15). The Holy Spirit is the greatest teacher indeed.

<sup>58</sup> Son, 'The relevance of Christian approach', p. 2.

<sup>59</sup> Holmes, *Building the Christian Academy*, p. 31.

<sup>60</sup> Son, 'The relevance of Christian approach', p. 2.

<sup>61</sup> Son, 'The relevance of Christian approach', p. 7.

<sup>62</sup> Son, 'The relevance of Christian approach', pp. 7-8.

### **2.3 The Concept of Christian Higher Education Inferable from the Historical Analysis**

In this historical review, I see the old higher educational 'cord' to determine how the new may be twined as an oscillating struggle between two conflicting educational concerns or schools of thought. On one hand, there are ideologies and objectives for a godly-formed and morally virtuous free citizen, as against scholarship practically equipped with scientific knowledge and technological skills as power to exploit the natural world for improving the estate of humanity, on the other. The latter objective, however, by the end of the twentieth century has resulted rather in secularisation of learning,<sup>63</sup> with ecological implications as I argue in chapter four. Then with the dawn of the twenty first century, Christian higher education envisages the need to balance or integrate the positive ideals of the two extreme cords into one known as 'holistic education,' as the Church's mission strategy for transformational development. Implicit in the ideology of Christian holistic education is the centrality of a theocentric cosmology and appropriate biblical/theological foundations. Kwame Bediako argues that only the Gospel can provide the true hermeneutic to human eco-cultural life, including scholarship.<sup>64</sup> In short, to answer the chapter's question of what I perceive Christian higher education, particularly its academic programmes, to be and how it can serve as mission for moral transformation in our generation, there are five main twines or strands suggestive from the past twenty centuries' historical review that form or mark the one new cord, holism, in education. These twines include: designing higher academic programmes with theocentric cosmology and centrality of theology, the content being knowledge of the unity of truth, using balanced pedagogical approaches that ensure integration of faith in learning, appreciating the role of the Holy Spirit in the teaching and learning process, and purposing it ultimately for transformational development and holistic mission.

### **2.4 Assessment of Holistic Christian Education: Mindset (Programme) and Impact (People)**

As noted from the historical review the main distinctive feature of holistic Christian education is the call to re-return the centrality of God, formative consciousness and mission-minded utilitarianism into the curriculum. As indicated in chapter one, Bryant Myers' *Walking with the Poor* and Esther Megill's *Education in the African church* are two key works critical as intellectual framework, because of their direct reflections on these ideas as pursued in this study. A social development person, Bryant Myers places emphasis on 'holism' in a developmental programme which can be applied to education. Thus, I adapt points in his discussions on general social programmes in as much as they suit education. For instance, it may imply from Myers that a holistic Christian education needs be assessed at both the social programme (curriculum) and people (student and teacher) levels. At programme level holism in mission expresses a commitment to serve whole persons, body and soul, in all their relationships.<sup>65</sup> Myers asserts that holism in a missional programme (such as in Christian curriculum) is a state of mind or an attitude. It must be in the mind of the practitioner (educational authority and faculty) as a habit - a way of living, thinking, and

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<sup>63</sup> Holmes, *Building the Christian Academy*, p. 77.

<sup>64</sup> Kwame Bediako, 'Scripture as the Hermeneutic of Culture and Tradition', *Journal of African Christian Thought*, Vol. 4, No. 1 (June 2001), pp. 2-11 (11).

<sup>65</sup> O'Callaghan, 'What do we mean by holistic ministry?'



doing. Creating this mindset is important because it is often difficult to demand holism in the form of the programme (curriculum) itself.<sup>66</sup> He further explains that the best test for holism is a negative test. For the curriculum this means, if there is no work directed at spiritual or value change, no work involving the church; no mention of meaning, discovery, identity and vocation then the curriculum is not holistic.

I have also already indicated that Esther Megill's work, particularly her human development and socio-cultural theories of education suggest that Christian educational curriculum be mindful of who the learner is *to be* and what he/she needs at various points and meet them with flexible curriculum design,<sup>67</sup> delivery and assessing methods. Moreover, because individual learners are necessarily influenced by their social and historical contexts such as family and school,<sup>68</sup> holistic Christian higher education curriculum needs to pay attention to the learner's participation in the life of a Christian eco-cultural community.

With these understandings, I derived and formulated a five-point approach to evaluating a holistic Christian higher educational curriculum from the mind-set concept of Myers and guidelines of Megill.<sup>69</sup> The general assessing question is: to what extent are the following a mindset of the Christian institution and curriculum?

- The context in which the teaching and learning takes place: has it the life and work of ongoing worshipping and witnessing community?
- The scope of the curriculum: are the contents comprehensive, covering the spiritual and physical?
- The educational resources: are there any theological materials and reference to Scripture for theocentric interpretation of ideas?
- The purpose and delivery approach: balance between two extremes of life-centred (i.e. human formation and missional oriented) and content-centred (i.e. knowledge and utilitarian oriented)?
- The design of the curriculum: is it flexible, respecting developmental principles and aiming at value change at each stage (i.e. relevant to meeting learning needs of student)?

At people or students and teachers level, Myers argues that the development promoter (church) and the people (students/teachers) must show holistic thinking.<sup>70</sup> For Christian higher education this may mean that the church as well as teachers and students need to appreciate education as pursuit of unity of truth wherever it is found; learning being a process undergirded by Christian theocentric worldviews and points to faith in Jesus as the source of and reason for truth. It also means sustained hard work involving critically addressing issues with integrated approaches including discernment from theological perspectives as may be aided by the Holy Spirit where necessary.<sup>71</sup> Both learner and teacher need to understand the necessity, readiness and expectation of the learning process to influence them in being transformed for good works - sacred or secular. Moreover, in their working life students' continue being transformed and yet need position themselves to affect others with similar transformation. That manifests their transformational training as missional disciples of moral ecocare. To reiterate, Bryant Myers explains that 'transformational' as an adjective reminds us that human progress is not inevitable; it takes hard work, because transformation implies changing our choices in a life long journey. Thus a holistic Christian higher educational

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<sup>66</sup> Myers, *Walking with the Poor*, pp. 201, 202.

<sup>67</sup> Megill, *Education in the African Church*, p. 201 defines design of curriculum as deciding on the sequence and frequency of activities and experiences by which the learning task is undertaken.

<sup>68</sup> Kristinsdóttir, 'From theory to application'.

<sup>69</sup> Megill, *Education in the African Church*, p. 202.

<sup>70</sup> Myers, *Walking with the Poor*, p. 202.

<sup>71</sup> Myers, *Walking with the Poor*, p. 247.

programme - be it in the sciences or humanities - designed with a theocentric worldview needs to promote life value change. But essential in human value change is repentance and forgiveness, which most often finds its roots in the transformative power of faith traditions, and so is the work of the religious (particularly the Christian) community.<sup>72</sup> Perhaps this may explain why Pillay advocates for Christian higher educational institutes to be alternate educational communities that refuse to be intimidated by the globalised secularization.<sup>73</sup>

Practically these suggest that in the academia holistic Christian education aimed at mission and moral transformation may have to consider formative indicators in addition to those for the traditional cognitive assessments. For the formative assessment Bryant Myers poses the main evaluative questions as 'what changed', 'who changed' and 'what do we observe and measure'?<sup>74</sup> Then he answers to show that we assess the extent to which the goals are attained, namely, changed people (students and teachers) have discovered their true identity and vocation, and also changed relationships that are just and peaceful.<sup>75</sup> Both students and teachers need to be targeted in the change evaluation because if there is integrity in a transformative programme all parties must experience transformation.<sup>76</sup> He suggests participatory evaluative tools such as Appreciative Inquiry (AI), Participatory Impact Evaluation (PIE), Outcome Mapping (OM) and Most Significant Change (MSC) technique.<sup>77</sup>

Appreciative Inquiry is a method of inquiry into social change by considering what is already creating value. Its philosophy is that 'if we can determine what is for life and what is generating well-being, we can imagine its expansion.' The community (class) will then move in this direction, as admonished by Paul in Philip, 4:8-9.<sup>78</sup> I deduce that theologically, this approach encourages both a TD teacher and his/her students to find God's redemptive work in their life and seek to become more intentionally part of it. In short it helps to know that despite human depravity, 'God's image in us is hope for restoration.'<sup>79</sup> Thus, for purposes of this study Appreciative Inquiry may assess Christian *moral impulsion* or plausible motivation for ecocare. The second approach, Participatory Impact Evaluation, measures changed values and perceptions or worldviews. It considers qualitative issues like changes in a person's sense or desire of dignity, social status, just and peaceful relations, and general well-being. Therefore, in my proposed African theocology Participatory Impact Evaluation may assess the participants' inner disposition or *attitude* regarding global ecocrisis. The third (Outcome Mapping) and fourth (Most Significant Change) approaches are similar in purpose or end result. Outcome Mapping focuses on evidences to show how changed values and perceptions alter behaviours, relationships and actions. Most Significant Change functions similar to Outcome Mapping except that it depends on stories or testimonies of participants which are discussed to identify 'What is the most significant change of all' concerning a particular issue within a specified period.<sup>80</sup> Hence, both Outcome Mapping and Most Significant Change may evaluate actual *outward* or behavioural indications of transformation toward ecological issues, with Most Significant Change focusing on the greatest of all the indications.

For the spiritual aspects, since only the Holy Spirit, and not the curriculum, converts, assessment is in the domain of faith: once both curriculum design and delivery committedly

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<sup>72</sup> Myers, *Walking with the Poor*, p. 198.

<sup>73</sup> Gerald Pillay, 'Education as Mission: Perspectives on some new opportunities,' in Andrew Walls & Cathy Ross, (eds.) *Mission in the 21<sup>st</sup> Century - Exploring the five marks of global mission*, (Maryknoll: Orbis books, 2008), p.171.

<sup>74</sup> Myers, *Walking with the Poor*, pp. 292-299.

<sup>75</sup> Myers, *Walking with the Poor*, pp. 3, 201, 202 [*italics mine*].

<sup>76</sup> Myers, *Walking with the Poor*, p. 298.

<sup>77</sup> Myers, *Walking with the Poor*, p. 293.

<sup>78</sup> Myers, *Walking with the Poor*, pp. 258-9.

<sup>79</sup> Myers, *Walking with the Poor*, p. 259.

<sup>80</sup> Myers, *Walking with the Poor*, p. 294.

fulfil the mind set of Christian holistic missional and transformational education by following all its prescriptions, including use of the bible and prayer, the impact can be trusted into the hands of God the Holy Spirit. Hopefully it may manifest somehow, somewhere, sometime in the life-long transformational journey of the participant. Myers holds almost similar views.<sup>81</sup>

For purposes of this study it is important to see to what extent the principles of holistic missional and transformative education influence the studying of environmental science as an academic subject.

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<sup>81</sup> Myers, *Walking with the Poor*, p. 247.

## CHAPTER 3

### MORAL ENVIRONMENTALISM: ENVIRONMENTAL SCIENCE AS 'FACT' OR RELIGIOUS ECOLOGY AS 'FAITH'?

#### 3.1 Introduction

In the previous chapter, I responded to the first of the two fundamental questions for this study, which examined some literature on Christian higher education. Now I turn to the second question: What is Environmental Science and how can it influence moral ecological responsibility of students, particularly when studied within a holistic Christian educational framework? Implicit in this question is an assumption that education is dichotomised by the sacred-secular or science-religion/theology debate discussed in the previous chapter. I had pointed out there that in the seventeenth century CE, as a consequence of the evolution of Baconian science, was the contrasting of faith and knowledge (learning); and religion/theology was treated as irrelevant in doing science.<sup>1</sup> Therefore, specifically, the assumption in the question hinges around a suggestion of what may be termed 'scientific' as against 'religious' in our study of nature, particularly in the academic study of environmental science.

John Grim and Mary Evelyn Tucker,<sup>2</sup> on one hand, and Patrick Curry<sup>3</sup> on the other, replace 'environment' with 'ecology' in their studies, explaining that they perceive inadequacy and ambiguity in the definitions of the word 'environment' from their religious and ethical viewpoints, respectively. They, however, recognise that even 'ecology' itself is not without problems. According to Patrick Curry the German natural philosopher Ernst Haeckel coined the word in 1886 from the Greek '*oikos*, meaning 'home' or 'household'; and *logos* (study or knowing) to describe the scientific study of the relationships among organisms and between them and their environments.<sup>4</sup> But in recent times any subject that emphasises interrelationships has become ecology - the ecology of cities, family ecology etc.<sup>5</sup> Grim and Tucker also argue that there are various forms of ecology including *scientific* or *biophysical ecology* and *religious ecology*, the latter being an emerging field of study.<sup>6</sup> Thus a whole range of meanings have now evolved and confusion can arise if the kind of ecology intended or, by extension, what is meant by environmental science, especially at PUCG, is not made clear.<sup>7</sup> Moreover, Grim and Tucker rightly observe that as our understanding of nature deepens and broadens, especially regarding the ecocrisis, the legitimate question about our role in nature is being recognised and asked: 'How do humans fit in ecosystems and what modes should guide our moral responsibility to restore ecosystems and why?'<sup>8</sup> But a more fundamental question, in my view, is 'How do ecosystems work'<sup>9</sup> naturally? Because to know what is necessary for conservation of natural ecosystems<sup>10</sup> we need to gain a holistic

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<sup>1</sup> Holmes, *Building the Christian Academy*, p. 76

<sup>2</sup> John Grim and Evelyn Mary Tucker, *Ecology and Religion*, (Washington: Island Press, 2014), pp. 62-63.

<sup>3</sup> Patrick Curry, *Ecological Ethics*, p. 8.

<sup>4</sup> Curry, *Ecological Ethics*, p. 8.

<sup>5</sup> Curry, *Ecological Ethics*, p. 8.

<sup>6</sup> Grim and Tucker, *Ecology and Religion*, p. 62. (Italic emphasis is in the original text).

<sup>7</sup> Curry, *Ecological Ethics*, p. 8.

<sup>8</sup> Grim and Tucker, *Ecology and Religion*, p. 62.

<sup>9</sup> Grim and Tucker, *Ecology and Religion*, p. 62.

<sup>10</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p.23.

understanding of how our world works through natural ecosystems and 'what we are doing to it.'<sup>11</sup> Holistic understanding implies knowing scientific, socio-cultural, religio-ethical and politico-economic principals involved in ecosystem function. My aim in this chapter is to establish for this research what has, until now, been understood in PUCG as environmental science, particularly with respect to its academic treatment as an undergraduate science subject in a general or an interdisciplinary study, as well as its potential to motivate moral responsibility of students for creation care.

### 3.2 The Notion of Environmental Science (GNSP 101) as an Interdisciplinary Course at PUCG

Clearly, by its nomenclature, environmental science is from a two-term expression: environment and science. The Oxford Advanced Learner's Dictionary, defines 'environment' as the natural world in which people, animals and plants live.<sup>12</sup> In their *Environmental Science - A Global Concern* textbook for undergraduate education, William Cunningham and Barbara Saigo, define 'environment' (from the French: *environner* - to encircle or surround) as the circumstances or conditions that surround an organism or group of organisms.<sup>13</sup> By these definitions, 'the environment' connotes the idea that our *surrounding* is the space, time and other creatures around and amidst which we humans are, but minus us - at micro or macro levels. For Cunningham and Saigo it is the world (space and time) we inhabit, consisting of the natural world and the human-built world. The natural world or environment comprises the flora, fauna, soils, air, and water of the ecosphere (the Earth and the regions around it) that preceded us by billions of years and of which we are part.<sup>14</sup> Brian Thomas Swimme and Mary Evelyn Tucker, authors of *Journey of the Universe*, inform us that the observable universe emerged 13.8 billion years ago, and we now live on a planet orbiting our sun, one of the trillions of stars in one of the billions of galaxies in an unfolding universe that is profoundly creative and interconnected.<sup>15</sup> The human-built world, on the other hand, includes the socio-cultural institutions and artefacts that we create for ourselves using science, technology and political organisations.<sup>16</sup>

Science is a way of knowing. Many scientists claim it is a systematic, precise, objective way to study the natural world, employing creativity, skill and insight.<sup>17</sup> The insistence on objectivity is because Francis Bacon, who was highly instrumental in developing modern science, stipulated that we are directly aware of reality (and he means scientifically) in only physical things.<sup>18</sup> Science takes many different forms and is done in assorted ways by widely diverse people. But they have only one aim: to gain a neutral and unbiased comprehension of

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<sup>11</sup> Cunningham and Saigo, *Environmental Science - A Global Concern*, p. 2.

<sup>12</sup> Oxford Advanced Learner's Dictionary, 8th ed. (Oxford: Oxford University Press, 2010).

<sup>13</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 17. This is one of the primary text books used for the Environmental Science course (GNSP 101) at Okwahu Campus of PUCG.

<sup>14</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 17.

<sup>15</sup> Brian Thomas Swimme and Mary Evelyn Tucker, *Journey of the Universe*, (New Haven and London: Yale University Press, 2011), p. 2.

<sup>16</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 17.

<sup>17</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 48.

<sup>18</sup> John Henry, *The Scientific Revolution and the Origins of Modern Science*, 2nd ed., (Basingstoke: Palgrave, 2002). According to Holmes, *Building the Christian Academy*, p.75, Descartes' theory of indirect or representative perception had not yet taken over. Moreover, this was the time when the Reformation had created a vacuum of authority in matters on which scripture is silent, and Protestantism was torn by differing interpretations of the bible. Everywhere there was obvious need for an objective, universally assured system of acquiring knowledge independent of divisive beliefs.

the natural world and the universality of its phenomena.<sup>19</sup> The hope is to ultimately employ the knowledge gained in enhancing the estate of humanity, as Francis Bacon explained.<sup>20</sup>

Ideally, scientific learning follows a series of logical, orderly steps. It begins with observing objects and phenomena in the natural world and formulating provisional explanation or assumption called hypothesis. Testing the hypothesis experimentally leads to collecting data (hard facts) which may be analysed and interpreted, often by consulting the previous knowledge or hypotheses to draw conclusions or inferences of possibilities about the reality. Eventually, with evidence from a group of related investigations, scientists create a theory to explain a set of general principles.<sup>21</sup> This is called positivist inductive or experimental learning by examining the parts to conclude on the whole - that is, from the specific to the general.

It is significant to notice some limitations in scientific learning. The positivist inductive science is sometimes rejected, because some academics argue against objectivity claims in science. For them, there is no such thing as an objective, uninvolved observer, drawing experiences from uncertainties in quantum physics. They claim that anytime we make an observation we affect the observed; and subdividing objects or processes into constituent parts loses salient characteristics of the whole.<sup>22</sup> According to Cunningham and Saigo, such critics prefer a holistic or an interpretive approach to science. In doing this they recognise inherent biases, and describe or interpret subjects faithfully and as accurately as possible, deducing specifics from generalities. Moreover, it is a common misconception to say that science proves theories, because scientific interpretations are always conditional. Conclusions favouring or contradicting a hypothesis may be modified in the wake of new evidence.<sup>23</sup> For instance, in her discussion on values in ecological science Celia Deane-Drummond argues that the shift from the concept of ecological balance to ecological flux illustrates the difficulties of using ecological science as a basis for values, for as further research is conducted, other values appear that call into question the previous notions.<sup>24</sup> With these explanations of the terms 'Environment' and 'Science' we may look etymologically at what Environmental Science is.

Environmental Science as an academic subject is the systematic study of our environment (surroundings, both natural and human-built) and our place in it.<sup>25</sup> It is a highly interdisciplinary academic field that integrates natural sciences, social sciences and humanities in a broad, holistic study of the *world around us*.<sup>26</sup> It is relatively a new field that emerged from natural history and medicine during the Enlightenment, but gathered momentum in the 1960s, particularly with outcries against anthropogenic environmental hazards.<sup>27</sup> One such prominent outcry was the publishing of *Silent Spring* by biologist Rachael Carson in 1962, on pollution and toxicity threats to life. She observed, for instance, how in 1959 aldrin, 'a dangerous chlorinated hydrocarbon' dusted from the air over 27, 000

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<sup>19</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 48.

<sup>20</sup> John Henry, *The Scientific Revolution and the Origins of Modern Science*, 2002. See also Curry, *Ecological Ethics*, p. 37.

<sup>21</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 49.

<sup>22</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 49.

<sup>23</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 49.

<sup>24</sup> Celia Deane-Drummond, *Eco-theology* (London: Darton. Longman and Todd Ltd., 2008) p. 12

<sup>25</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 17.

<sup>26</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 17. Italics emphasis mine.

<sup>27</sup> Bernard J. Nebel and Richard T. Wright, *Environmental Science: The Way the World Works*, 5th ed., (New Jersey: Prentice Hall, 1996), p.7.

acres in southern Michigan against the Japan beetle 'caused shocking destruction of animal life and have exposed human beings to undeniable hazard.'<sup>28</sup>

William Cunningham in his 'Preface' to their text book *Environmental Science - A Global Concern* indicates that this subject may be studied by both science-major and non-science major students, with the latter exposed to it in the first year at university<sup>29</sup> as part of a general or an interdisciplinary study. Bernard J. Nebel and Richard T. Wright explain why non-science major students also need to mandatorily study environmental science as an interdisciplinary course. They believe that environmental science is appropriate for even non-majors because it is important that people entering virtually every professional area have understanding of the factors underlying environmental issues so that they can have environmental concerns and bearings in their future decision-making processes.<sup>30</sup> Mark Stewart of the University of Maryland, writing in 2010 observes that in North America, as an example, sustainability has exploded onto the higher education scene in the previous few years as a response to calls from local, national, and international realisations of our global ecological predicament becoming clearer.<sup>31</sup>

In Stewarts' view, the exponential growth of human population and the insatiable and unsustainable consumption of finite resources are causing profound damage to our global ecosystem. Government, industry, aid organizations, and other groups of people around the world are looking to institutions of higher education to create sustainable solutions to environmental, societal, and economic challenges.<sup>32</sup> According to him, between December 2006 and April 2010, more than 680 American colleges and universities answered that call by pledging to "green" their operations and set goals for eliminating their contributions of global warming emissions through the American College and University Presidents' Climate Commitment. Some institutions, including Arizona State University, the University of Georgia, and the University of Maryland, have made significant efforts - such as developing new academic programmes, creating graduation requirements, and training faculty on how to integrate sustainability across the curriculum - to educate all their students about sustainability and prepare graduates to be thoughtful citizens of a planet in peril.<sup>33</sup>

In 2017, barely a little under seven years after Stewart's article, his observed and reported positive zeal for environmental education in the USA came under serious threat with a change of government. The new President, Donald Trump, appointed a new head for the

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<sup>28</sup> Rachael L. Carson, *Silent Spring*, (New York: Mariner Books, 1962), pp. 87-88. However, fifty years after *Silent Spring's* eco-alarm Roger Meiners, Pierre Desrochers and Andrew Morris, eds., *Silent Spring at 50: The False Crisis of Rachael Carson*, (Washington D.C.: Cato Institute, 2012), p. 95 accused Carson of raising a 'false crisis' and substituting sensationalism for fact based on an outward work of popular science. My own response is that it is not difficult to infer that *Silent Spring at 50* sounds more an anti- than pro-environmentalism. The arguments, made by authors and editors who themselves are distinguished professors in property-business-environmental interactions, are not objectivised to necessarily correct Carson's alleged 'significant errors and sins of omission', but highly tended to re-win public interests in re-flourishing environmental-related business and economic enterprises that *Silent Spring* silenced in the 1970s. Perhaps the current American President, Donald Trump, is pursuing similar politico-economic-environmental agenda in reducing governmental concerns about the environment. I contend that irrespective of whatever arguments against her, Rachael Carson remains a historically and necessarily bold and fearless ecological 'whistle-blower' who did not only alert the public against global anthropogenic ecocrisis, but caused the conscious efforts at promoting necessary ecological actions. For her publication 'triggered repercussions that resonate to this day - from creating the modern environmental movement to spawning federal laws governing air and water quality, protection of endangered species, worker safety, and much more.' See Larry Katzenstein, 'The Precautionary Principle: *Silent Spring's* Toxic Legacy,' in *Silent Spring at 50*, p. 245.

<sup>29</sup> Cunningham, 'Preface' in Cunningham and Saigo, *Environmental Science - A global Concern*, p. xv.

<sup>30</sup> Nebel and Wright, 'Preface' to *Environmental Science: The Way the World Works*, p. xvii.

<sup>31</sup> Stewart, 'Transforming Higher Education,' p. 1.

<sup>32</sup> Stewart, 'Transforming Higher Education,' p. 1.

<sup>33</sup> Stewart, 'Transforming Higher Education,' p. 1.

Environmental Protection Agency, Scott Pruitt, a climate change sceptic with close ties to the oil and gas industry, to undo automobile emissions regulations. Then he cut environmental protection grant by thirty percent<sup>34</sup> and threatened to withdraw the USA from the 2015 Paris Climate agreement, aimed at ensuring a low carbon world, on purely economic and political grounds.<sup>35</sup> However, I believe that one country's political denial of occurrence of, and the subsequent objection to the need for moral ecological education and actions to combat climate change, does not mean creation care efforts have to cease in all other global cultures.<sup>36</sup>

For instance, large expanses of tropical moist forests such as in West Africa are disappearing at a rapid rate,<sup>37</sup> and in Ghana, the Environmental Protection Authority (EPA) fears unchecked deforestation threatens desertification conditions and loss of biodiversity due to migration of some species, particularly the avian.<sup>38</sup> Thus there are great efforts towards environmental science education and actions in Ghana, particularly among the public universities and some private Christian university colleges such as Valley View University (VVU) and Presbyterian University College, Ghana (PUCG). The Ghana government in 2010 declared climate change a developmental challenge with a call for each of us 'from every sector and group' including the academia to contribute to solving the problem.<sup>39</sup> Consequently, the Ministry of Education committed itself to promoting environmental education and awareness creation from basic to tertiary level of schooling by, *inter alia*, developing curricula around environmental sustainability.<sup>40</sup>

The PUCG from its inception in 2003 had this concern factored in its institutional concept to integrate environmental sustainability education across programmes with environmental science as one of the subjects in a general or an interdisciplinary study. The lecturer, who designed and lectured the first general Environmental Science (GNSP 101) course in 2003, explained that the reason for including it across the curricula of the university was to mitigate 'the problem with sanitation in Ghana and misuse of resources, contrary to God's injunction for mankind to take care of His creation.'<sup>41</sup> Therefore, the educational purpose was 'for students in all programmes of study at PUCG to be environmentally literate and conscious of the fact that God expects us to take care of the environment and sustain

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<sup>34</sup> Daniel Marans, 'Obama EPA Head Savages Donald Trump's Environmental Policies' *The Huffington Post*, published 4th March 2017, Accessed 8th April 2017, [http://www.huffingtonpost.com/entry/gina-mccarthy-savages-donald-trump\\_us\\_58bb08cee4b0d2821b4e977e](http://www.huffingtonpost.com/entry/gina-mccarthy-savages-donald-trump_us_58bb08cee4b0d2821b4e977e).

<sup>35</sup> Eli Stokols, 'Trump to Pull U.S. Out of Paris Climate Accord', *Wall Street Journal*, posted 6/1/2017 and accessed 14 July 2017 at <http://www.wsj.com/podcasts/trump-to-pull-us-out-of-paris-climate-accord/0FBC2FBC-2A0B-40B3-B14C-AF72587043DF.html>

<sup>36</sup> Personally, I see these developments as potent with great retardation to global efforts in mitigating ecocrisis and its devastating implications for life on the Earth. Particularly the attempts, such as in this current study, to call for moral and missional ecology in the academia, may suffer significant discouragement, if the USA, an influential country in global decision making, does not appropriately resolve this political-environmental tension. Clearly and ontologically it indicates how political factors, especially the sustenance of political will and decisions over time, are very crucial in the prospects of promoting moral ecological education and praxis. However, I am encouraged that a political denial of the reality of anthropological climate change and ecocrisis in general in a country does not by itself factually deny the existential experiences of ecocrisis in that country or other parts of the globe. There are enough significant foot prints of ecocrisis in many parts of the world, even if experienced at different dimensions and levels, to support global environmentalism.

<sup>37</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 113.

<sup>38</sup> Environmental Protection Agency 2005, Ghana State of Environment Report 2004, EPA, Accra Ghana, p. 6.

<sup>39</sup> H. E. Vice President John Dramani Mahama, 'Message from the Vice President,' to National Climate Change Committee (NCCC), *Ghana Goes for Green Growth*, p.1. (Accessed 24 December 2016), GhanaGreen.pdf

<sup>40</sup> Naana Jane Opoku Agyeman, 'Environmental Education Integrated in School Syllabi,' accessed 24 December 2016], from [ghana.gov.gh](http://ghana.gov.gh)

<sup>41</sup> L-AB001, interview, e-mailed questionnaire, retrieved 8<sup>th</sup> November 2014.



creation.<sup>42</sup> Mark Stewart similarly explains that, since environmental sustainability offers a conceptual framework for addressing today's problems, students in *every* discipline must be engaged in conversation about it with action to help reshape society toward ecological sustenance. Therefore, in his view, educating all students to be literate in environmental sustainability should not be a goal of only a few select colleges and universities which have strong environmental traditions. Rather, comprehensive eco-sustainability education is an essential pursuit for any college or university that desires to be relevant in the 21st century.<sup>43</sup>

It is to this end that Cunningham and Saigo suggest that universities design appropriate environmental science action plans including environmental science curricula, which could contrast with theoretic disciplines by being 'mission-oriented.' That is, the curriculum needs to enable students to seek new, valid, contextual knowledge about the natural world and our impacts on it, but obtaining this information could create in them a responsibility to get involved in trying to do something about the problems we have created.<sup>44</sup> In other words, meaningful responsibility for creation goes beyond academic facts and beliefs in environmental science and touches our personal lives, our lifestyles, and how we personally affect the environment. The study of environmental science, as factual learning, may have to engender moral commitment to concrete or practical ecological actions.<sup>45</sup> The text-based learning needs 'to challenge students and those around them to begin "making a difference"' by taking sustainable ecological actions.<sup>46</sup> The implication is that in addition to scientific knowledge or facts of how the natural world works, studying environmental science as a general and 'mission-oriented' subject requires also ecological ethics - the moral (right and wrong) relationships between humans and the world around us<sup>47</sup> - which directs how we ought to live and act to sustain our ecological community.<sup>48</sup>

In view of this Cunningham and Saigo propose some goals for teaching general and missional Environmental Science including (1) awareness and appreciation of the natural and built environment; (2) knowledge of natural systems and ecological concepts; (3) understanding of current environmental issues; (4) and the ability to use critical-thinking and problem-solving skills (with resources such as Scripture as hermeneutic)<sup>49</sup> for environmental issues.<sup>50</sup> In my view these are plausible goals and the first three may be considered as 'Environmental Science as Fact' and the last one 'Ecology as Religious Faith.' Environmental Science as Fact is the scientific understanding of the natural environment and how it works through natural ecological systems (ecosystems) - the units for ecological actions. It analyses the complex interactions within and between ecosystems. Ecology as Faith, contrarily, as explained by Grim and Tucker, examines cultural awareness of and beliefs about these interactions as to urge or create moral impulsion for actions to ensure the continuity of ecosystem life. Whereas the former has given us methods of conservation and management of ecosystems and species, the latter represents an important lens whereby humans can think critically, understand and re-envision their roles as participants in the dynamic processes of life<sup>51</sup> from the perspective of God, the creator of our Earth and its ecosystems.

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<sup>42</sup> L-AB001, interview, e-mailed questionnaire, retrieved 8<sup>th</sup> November 2014.

<sup>43</sup> Stewart, 'Transforming Higher Education', p. 2.

<sup>44</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 17.

<sup>45</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 13.

<sup>46</sup> Nebel and Wright, 'Preface' to *Environmental Science: The Way the World Works*, p. xviii.

<sup>47</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 37.

<sup>48</sup> Curry, *Ecological Ethics*, p. 3.

<sup>49</sup> Kwame Bediako, 'Scripture as the Hermeneutic of Culture and Tradition', *Journal of African Christian Thought*, Vol. 4, No. 1 (June 2001), pp. 2-11.

<sup>50</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 17.

<sup>51</sup> Grim and Tucker, *Ecology and Religion*, p. 63.

### 3.3 Natural Ecosystem Function as Principles of Sustainability or Conservation.

Implicit in the study of environmental science is the presupposition that it is when we gain understanding of how our world works through natural ecosystems that we may understand 'what is necessary for their conservation'<sup>52</sup> or sustainability. Although the Earth, our planetary home, and its regions (ecosphere) is an environment on its own, yet it is embedded in another environment, the cosmos or universe, since our planet and its sun are just one of the trillions of stars in one of the billions of galaxies in an unfolding universe.<sup>53</sup> Environmental scientists limit their studies to the observable ecosphere, and even here define an arbitrary unit for practical purposes of studying and practising sustainability as the ecosystem. Ecosystems as units for studying environmental science are thus neither necessarily distinct boundaries nor totally isolated from one another.<sup>54</sup> Basically an ecosystem is a grouping of plants, animals, and microbes (biotic community) interacting with each other and with their environment (the surrounding abiotic factors) in such a way as to perpetuate the grouping.<sup>55</sup> Similar or related ecosystems are often grouped together to form major kinds of ecosystems called biomes, particularly on terrestrial environments. Tropical rainforests, grasslands and deserts are examples.<sup>56</sup> Then all the species of living things on Earth, along with all their environments, are grouped as one "super" ecosystem, which is called the biosphere.<sup>57</sup> In this systems approach of studying the environment, the focus is more on roles played by various species of the biotic community than on the uniqueness of individual members.<sup>58</sup> However, valuable insights into how the system works can be obtained from looking at its organisation and function.

One basic insight from looking at the organisation and function of ecosystems is that energy and materials are obtained, processed, stored or cycled between components of the ecosystem.<sup>59</sup> From the perspective of evolutionary philosophy, the universe is made up of space, mass (matter) and energy. Evolutionists claim it began as a single point that was trillions of degrees hot and that instantly rushed out apart in a continuous cosmic unfolding trajectory<sup>60</sup> for about fourteen billion years now.<sup>61</sup> Matter is anything that occupies space and has mass - all gases, liquids and solids in both living and non-living systems. Energy is the ability to move mass; hence it affects matter by causing changes in its position or its state. Because energy does not have mass or occupy space, it cannot be measured in units of weight or volume, but in other kinds of units such as calories or joules.<sup>62</sup> In the ecosystem mass and energy changes occur as producers (autotrophic green plants) make high-potential-energy organic molecules for their bodies from low-potential-energy raw inorganic materials with the help of light energy in the process of photosynthesis.<sup>63</sup> Then the photosynthetic products become food and oxygen that sustain consumers and other heterotrophs.

Generally from the observations of mass-energy interactions four characteristics seem to underlie natural ecosystem function and sustainability: (1) there is disposing of wastes and

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<sup>52</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p.23.

<sup>53</sup> Swimme and Tucker, *Journey of the Universe*, p. 2.

<sup>54</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 25.

<sup>55</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 24.

<sup>56</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 26.

<sup>57</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 27.

<sup>58</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 62.

<sup>59</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 62.

<sup>60</sup> Swimme and Tucker, *Journey of the Universe*, p. 5.

<sup>61</sup> Swimme and Tucker, *Journey of the Universe*, p. 10.

<sup>62</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, pp. 55-59.

<sup>63</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 60.

replenishing nutrients by recycling of all elements, (2) nature uses sunlight as basic energy source, which is both 'non-polluting and non-depletable' (3) the size of consumer populations is maintained such that overgrazing or other over use does not occur.<sup>64</sup> The fourth characteristic, which is related to and may be an extension of the third, is how ecosystems check the overgrazing and remain in ecological balance. Overgrazing is curbed through balances among the populations of different species and further balances between each species and the abiotic environment. In short, ecosystem balance is essentially population balance by controlling the birth and death rates of each species with both biotic and abiotic factors, which together are known as environmental resistance.<sup>65</sup> The process is referred to as maintenance of biodiversity and is the fourth principle underlying ecosystem function.

From a scientific point of view, environmental issues almost always include an interaction of physical, chemical, and biological processes toward ecological balance.<sup>66</sup> However, in these dynamic processes there are phenomena that are constantly observed as fundamental and described as natural laws. These include the observation that mass in its basic unit as atom, remains unchanged during chemical reactions, but can be transformed into another set of mass by either absorbing or releasing energy.<sup>67</sup> Perhaps it is because from the very beginning of the universe mass has the quality of transforming into light (energy) or bonding into another mass<sup>68</sup> due to atomic attraction.<sup>69</sup> Similarly, the energy absorbed or released by mass during reactions is neither newly created nor destroyed, but may be just a conversion from one form to another.<sup>70</sup>

For scientists then, the basic natural environmental law is the law of self-sustainability through conservation of mass and energy, perhaps to sustain life on Earth. In that case it implies that God has no role in the sustainability of the Earth, contrary to Christian cosmology as I shall later adduce in this chapter. The scientific phenomenon of self-conservation and to support life is implied in what Swimme and Tucker refer to as the 'self-organisation dynamics' in nature to maintain the delicate conditions of life on Earth. In their view the Earth has adapted itself so as to maintain the narrow band that enables life to flourish. By drawing carbon dioxide out of the atmosphere via photosynthesis, Earth altered the composition of its atmosphere to keep itself cool as the Sun grew hotter. Thus the Earth is not just a big ball upon which living beings exist. Earth is a creative community of beings that reorganises itself age after age so that it can perpetuate and even deepen its vibrant existence.<sup>71</sup>

That nature scientifically reorganises and rebuilds itself may be exemplified by the regeneration of fresh ecosystem on the demilitarised zone between North and South Korea after their war ended in 1953. With no human disturbances the scarred slopes became re-clothed with a dense hardwood forest for wild animals. A similar example of the regenerative

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<sup>64</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, pp. 66-71.

<sup>65</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 82.

<sup>66</sup> Celia Deane-Drummond, *Eco-theology*, p. 12 notes that contemporary ecologists are less attuned to the concept of ecological balance because of the notion of flux, unstable equilibrium, openness to external influences, disturbance from internal and external forces, including humanity. However, she argues that the concept of balance cannot be dispensed with altogether, since knowing that ecosystems are in fragile balance, subject to disturbance, is important to inform the way humanity thinks about ethical conduct in relation to the environment - that is, we need to be aware that this is the case, though not a value term for ethical behaviour (how we ought to behave).

<sup>67</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 56.

<sup>68</sup> Swimme and Tucker, *Journey of the Universe*, p. 9.

<sup>69</sup> Swimme and Tucker, *Journey of the Universe*, p. 12.

<sup>70</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 59.

<sup>71</sup> Swimme and Tucker, *Journey of the Universe*, p. 56.

power of nature occurred on the political no-man's-land between East and West Berlin when they were separated for forty years.<sup>72</sup>

Now in view of our assumption about environmental science as 'fact' at the beginning of this section, to what extent does our knowledge of these underlying principles - natural biogeochemical processes for the 'self-organising' or 'self-conservation' or 'self-sustainability' of ecosystems - enable or induce us to apply them in our effort to care for creation?

### 3.4 Natural Ecosystem Conservation and Motivation for Creation Care

A significant outcome of the study of environmental science is conservation knowledge, which is a relatively a new discipline of Ecosystem Management, with divided opinion on its relevance. Cunningham and Saigo describe it as attempts to integrate ecological, economic, and social goals in a unified, systems approach. It recognises that we cannot have sustained progress toward social goals in a deteriorating environment or economy, and vice versa. Each of these domains affects, and is affected by, others.<sup>73</sup> Ecosystem management as a science has many ideas drawn from the practical experiences and stipulations of ecologists like Aldo Leopold who attempted to restore his Sandy County farm to ecological health and beauty.<sup>74</sup> The commonest goals of ecosystem management include (1) maintaining visible populations of native species *in situ*, (2) representing, within protected areas, all native ecosystem types across their natural range of variation, (3) protecting essential ecological processes such as nutrient cycles, succession, hydrologic processes, etc (4) managing over long enough time periods to sustain the evolutionary potential of species and ecosystems and (5) accommodating human use and occupancy within these constraints.<sup>75</sup> These objectives have been criticised from many angles. Some ecologists see the concept of ecosystem management as mere arrogance of humans in claiming understanding of the dynamic unpredictable qualities of nature to imagine we can manage it. Social developers fear poverty and human needs may not ensure adherence to environmental protection laws.<sup>76</sup> For ethicists like Patrick Curry, arguing from ecocentric point of view, 'stewardship' and 'managerialism' are both paternalistic relations with the Earth, though the Earth does not need us as we need it. He shudders why given the overall historical record for unsuccessfully managing even ourselves, we believe we have the 'right' and ability to manage the natural world.<sup>77</sup> And with practical eyes as environmental scientists Cunningham and Saigo decry how that many of our management policies, while well-meaning, have made matters worse rather than better.<sup>78</sup> They see vision statements and organisational plans, based on science, for ecosystem management as little more than empty slogans, while nothing really changes.<sup>79</sup>

This, however, is far from saying that environmental, and hence, conservation science and practice are of no use. In discussing issues about environmental impact and biodiversity loss, for instance, Celia Deane-Drummond catalogued some benefits of environmental science. At least ecological knowledge helps us define biological diversity, though the species that have so far been identified represent only a small fraction of the actual diversity, especially in areas such as the tropical forests. In addition, conservation science and practice

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<sup>72</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, pp. 118-119.

<sup>73</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 121.

<sup>74</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 121.

<sup>75</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 123.

<sup>76</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 123.

<sup>77</sup> Curry, *Ecological Ethics*, p. 35.

<sup>78</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 121.

<sup>79</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 123.

is, at best, a safety measure for known species, as others disappear before they can be notified.<sup>80</sup> The point then is that conservation science and practice is not without significant challenges, particularly the moral commitment to practice it as expected. Said differently, it appears that contrary to expectation, in spite of the elucidation of the principles of conservation from observing the facts about functioning of discrete natural ecosystems, humanity have by and large failed to morally and strictly abide by them; and this may 'have significantly contributed to our current environmental crisis.'<sup>81</sup> As Cunningham and Saigo observe, humans have become organisms over most of the Earth, damaging or disturbing half of the world's terrestrial ecosystems' productivity to some extent. This they do through direct consumption, interfering with its production or use, or by altering the species composition or physical processes of human-dominated ecosystems.<sup>82</sup> Table 3.1 presents data on a study that mapped the extent of human disturbance of the natural world in 1995 by Conservation International as reported by Hannah Lee *et al.* The greatest impacts tended to be in human dominated ecosystems, particularly the forested and grass lands, including the Tropical dry forests.

What it means is that human impacts through their intrusion into ecosystems often contrast the four characteristics undergirding natural ecosystem function and sustainability. For instance, Nebel and Wright observe that while nature recycles materials we have, with scientific knowledge, constructed our human systems largely on one-directional flow of elements. It creates problems of depletion at one end and pollution at the other. Meanwhile ecosystems have comparatively low capacities for absorbing waste even when undisturbed. Such is the case, for instance, of fertiliser-nutrient phosphate, which is mined from deposits but ends up in waterways with effluents from sewage treatment.<sup>83</sup> About the second principle

**Table 3.1 Human Disturbance of the Natural World**

BIOME	TOTAL AREA (10 <sup>6</sup> KM <sup>2</sup> )	% UNDISTURBED HABITAT	% HUMAN DOMINATED
1. Temperate broadleaved forests	9.5	6.1	81.9
2. Chaparral and thorn scrub	6.6	6.4	67.8
3. Temperate grasslands	12.1	27.6	40.4
4. Temperate rainforests	4.2	33.0	46.1
5. Tropical dry forests	19.5	30.5	45.9
6. Mixed mountain systems	12.1	29.3	25.6
7. Mixed island systems	3.2	46.6	41.8
8. Cold deserts/semi deserts	10.9	45.4	8.5
9. Warm deserts/ semi deserts	29.2	55.8	12.2
10. Moist tropical forests	11.8	63.2	24.9
11. Tropical grasslands	4.8	74.0	4.7
12. Temperate conifer forests	18.8	81.7	11.8
13. Tundra and arctic desert	20.6	99.3	0.3

*Note:* Where undisturbed and human dominated areas do not add up to 100 percent, the difference represents partially disturbed lands

*Source:* Cunningham and Saigo, *Environmental Science - A Global Concern*, p.114. Original data from Hannah Lee *et al.*, 'Human Disturbance and Natural Habitat: A Biome Level Analysis of A Global Data Set.' in *Biodiversity and Conservation*, Vol. 4, pp. 128-155.

<sup>80</sup> Celia Deane-Drummond, *Eco-Theology*, (London: Darton, Longman and Todd Ltd., 2008), p. 8.

<sup>81</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 73.

<sup>82</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 113.

<sup>83</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, pp. 73-74.

of sustainability our heavy dependence on fossil fuel rather than the 'nonpolluting and nondepletable' solar energy results in pollutions beyond ecosystem's absorbing capacity. For the third principle, overfishing of the oceans and rivers, overgrazing of range land and deforestation are examples of our shortfall of this principle.<sup>84</sup> As I indicated earlier, large expanses of tropical moist forests such as in West Africa are disappearing at a rapid rate,<sup>85</sup> and in Ghana, the Environmental Protection Authority (EPA) fears unchecked deforestation threatens desertification conditions and loss of biodiversity due to migration of some species, particularly the avian.<sup>86</sup> In addition, related to the fourth principle, Nebel and Wright suggest that as humans unwittingly change basic abiotic parameters, especially excess carbon dioxide resulting in global warming, ecosystems may be upset with loss of biodiversity.<sup>87</sup> Based on some field data gathered by the Ministry of Environment, Science and Technology (MEST) in the Upper East Region of Ghana in 2010, I have argued similarly elsewhere that anthropogenic climate change may lead to biodiversity loss.<sup>88</sup> For Cunningham and Saigo, conversion of natural habitat to human uses is the largest single cause of biodiversity loss.<sup>89</sup> Yet the value of conserving biodiversity is not simply related to ecosystem function: it directly provides instrumental benefits to humans; and indirectly ensures biogeochemical cycling necessary for maintaining global ecology and climate stability.<sup>90</sup>

As argued above, opinions are divided in environmental science, depending on worldviews, about the effectiveness of employing ecosystem management concepts which have been based on scientific facts. Is it the case that we simply have to accept limits on what we can do and have and free ourselves from the illusion that science and technology (alone), as factual learning, can provide solutions to our environmental and social problems?<sup>91</sup> At least, there is the suggestion that not only is there some pessimism about effectiveness of conservation science alone in resolving our ecocrisis, but also it may not by itself adequately motivate us to even do what it teaches, with moral commitment. Nebel and Wright suggest we may have to go beyond being 'smart to recognise the critical need to establish a balance between our human system and the rest of the biosphere, but also wise enough to *do so*.<sup>92</sup> Deane-Drummond also wrote about and expects 'ecological wisdom', arising out of a perceived sense of the interrelationships and integrity of biological nature, to stimulate us for a similar sense of sustaining ecosystem interrelationships and integrity. In other words, for Deane-Drummond, the way creatures marvellously attune to their environment and converge into particular patterns during the course of evolution is a kind of nature's wisdom. She adopts Jeffrey Schloss<sup>93</sup> definition of wisdom as 'living in a way that corresponds to how things are.' Then she explains that the way things are could helpfully include ecological insights and knowledge. Wisdom, then, would be living in accordance with our knowledge of such sciences, but in such a way that gave meaning to existence.<sup>94</sup>

Natural wisdom is intriguing, but from the perspective of the Christian faith, it is contentious that it may, from mere observation of nature, influence sustained human action of

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<sup>84</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, pp. 73-76.

<sup>85</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 113.

<sup>86</sup> Environmental Protection Agency 2005, Ghana State of Environment Report 2004, EPA, Accra Ghana, p. 6.

<sup>87</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p.104.

<sup>88</sup> Ebenezer Yaw Blasu, 'Compensated Reduction' as Motivation for Reduced Deforestation: An African Christian Theological Response, p.19.

<sup>89</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 113.

<sup>90</sup> Deane-Drummond, *Eco-Theology*, p. 10.

<sup>91</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 123.

<sup>92</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 105. (Italics in the original text).

<sup>93</sup> Jeffrey Schloss, 'Wisdom Traditions as Mechanisms for Organisational Integration', in W. S. Brown, (ed.), *Understanding Wisdom* (Philadelphia: Templeton Foundation Press, 2000), p. 156.

<sup>94</sup> Deane-Drummond, *Eco-Theology*, p. 13.

keeping the integrity of creation, unless it points beyond nature itself to its creator. An affirmation of a creator immediately calls into question any scientific notion of a universe that evolved with a biogeophysical clock for self-regulation and sustenance, observable as natural wisdom. As I shall later point out in more detail Christian faith sees natural law or what scientists indicate as rejuvenation without human interference, as evidence of God at work in sustaining his Earth. Thus an affirmation of a creator, rather than just observing natural law or wisdom, leads to a theocentric wisdom, one undergirded by and which points to doing the ethical thing - ecological action for integrity of creation - out of faith in and honour of God (Heb.11:6; Pro. 1:7).

My position, from the perspective argued above is that, studying environmental science only as fact is inadequate to invoke moral eco-actions or mission-orientation. Dianne Bergant strongly argues that lack of ethical impetus in scientific worldview accounts for the inability to replenish the depleting material resources, or desisting from procuring prosperity at the expense of the basic rights of others.<sup>95</sup> She bases her argument on the observation that although science and technology provide a pattern of growth and prosperity, the resulting benefits of material comfort, can no longer be sustained at the same rate or for the same number of people.<sup>96</sup> The implication is that studying environmental science only as facts, as it is, for instance, at PUCG, is inadequate to invoke moral eco-care praxis or missional ecological orientation. How then may it become holistic and missional?

### **3.5 Moral Deficiency of Environmental Science as 'Fact': Need for Ecology as 'Faith'**

It is expedient to explain further why studying environmental science as only 'fact' may have difficulty in being 'mission-oriented'. As argued above, factual learning of environmental science is largely only a matter of gaining knowledge, but it lacks sufficient motivation for necessary moral ecological actions toward creation care. Two basic reasons come to mind, namely, the cosmic exclusivity implicit in the name of the subject; and the apparent insufficiency and ethical impotence of the knowledge it provides. By cosmic exclusivity I mean the possible lack of a sense of belonging to and affection that may induce moral concern or attitude and behavioural action for sustaining the ecosystemic place we inhabit. From my earlier etymological definition of environmental science at the beginning of this chapter, we noticed that the term 'environment' may literally mean our surroundings, minus us. The key expression is 'around or surround', which may connote non-inclusion of humans in the scientific understanding of environment in the study of environmental science. Noting that 'environment' is widely understood literally as 'that which surrounds' Patrick Curry considers the term as denoting passiveness in setting.<sup>97</sup> Thus by extension it is not only difficult to assume but also not surprising to observe a plausible propensity for students, as it was at PUCG, to be passive or lack motivation for proactive eco-praxis in studying environmental science, itself defined as 'a study of the world around us.'<sup>98</sup>

From an ethical point of view, Patrick Curry argues that the concept of 'around us' makes the term lend itself far too readily to two anthropocentric assumptions that contribute massively to ecological crisis. They are that ultimately, only 'we' (humans) matter; and that the value, and indeed reality, of everything else only matters to the extent it enables us to get

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<sup>95</sup> Dianne Bergant, *The Earth is the Lord's: The Bible, Ecology and Worship*, (Collegeville, Minnesota: The Liturgical Press, 1998), p. 10.

<sup>96</sup> Bergant, *The Earth is the Lord's*, p. 10.

<sup>97</sup> Curry, *Ecological Ethics*, p. 8.

<sup>98</sup> Cunningham and Saigo, *Environmental Science - A global Concern*, p. 17. Italics emphasis mine.

on with our own show.<sup>99</sup> Such anthropocentric understanding characterising the study of environmental science as a secular subject may leave a student with a sense of being apart from and not part of nature. That is, they are cosmically excluded, at least, relationally. Yet in order to counter the destructive attitudes to the environment we humans need to understand ourselves as contingently embedded in a network of relationships as Michael Northcott correctly identifies.<sup>100</sup>

Perhaps the sense of cosmic exclusivity is related to inability of the scientific facts alone to stimulate the sense of ecological embedding - what I call religio-ethical impotence in the learned facts. For as Dianne Bergant implies in her *The Earth is the Lord's*, scientific and technological facts lead us to believe that we can step outside of our environment to examine it and control it.<sup>101</sup> From her perspective, science and technology tend to give us a false sense of being apart from and not part of the environment, as if 'we merely live within the environment as we live within a building.'<sup>102</sup> I reiterate my argument that 'notwithstanding the good that science entails for development, teaching [environmental science] without a mind-set to induce moral transformation and responsibility for preserving our Earth is a mission only half accomplished.'<sup>103</sup> Commenting on the book *EcoSpirit: Religious and Philosophies for the Earth*, Deane-Drummond consents to the author's recognition that scientific 'facts alone about environmental issues are not enough; what is needed is something more elemental, that probes the background assumptions pervading modern thought.'<sup>104</sup> She means that learning that provides information anterior to scientific assumptions of the observable universe, and which points to origins of the universe, must be added or even be fundamental to the scientific learning, for the latter to be morally influential.

Swimme and Tucker speak of a celebrated physicist and cosmologist, Freeman Dyson, who reflecting on and trying to make sense of the origin of the universe, particularly the scientific discovery of its steady evolutionary expansion, realised that he had come to feel at home in the universe in a new way. He was quoted as saying: 'The more I examine the universe and study the details of its architecture, the more evidence I find that the universe in some sense must have known that we are coming.'<sup>105</sup> In a comment, Swimme and Tucker admit that humans were not present in any explicit sense at the beginning, but Dyson suggests that we are now learning ways in which life was implicitly present in the very dynamics themselves, from the very first moment.<sup>106</sup>

It is indicative from Deane-Drummond's suggestion that fundamental learning in environmental science that may affect environmental attitude may be through myth and symbol making. For her, "myth" is not intended to imply the lack of truth, but rather shows its capacity to reach beyond the rational to include other dimensions of knowing.<sup>107</sup> This is the dimension of spirituality or religion or theology, which enables us to disentangle the roots of such myths and their impact, negative or positive, on human relationships with the Earth. She indicates also rightly that though religious thinking and practices are part of the problem yet they also are part of the potential way forward for creation care, because they seek to recover our sense of place on the Earth, a reminder that the Earth is our common home, and

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<sup>99</sup> Curry, *Ecological Ethics*, p. 8.

<sup>100</sup> Michael Northcott, *A Moral Climate: The Ethics of Global Warming* (London: Darton, Longman and Todd Ltd., 2007), p. 16.

<sup>101</sup> Bergant, *The Earth is the Lord's*: p. 10.

<sup>102</sup> Bergant, *The Earth is the Lord's*: p. 10.

<sup>103</sup> Ebenezer Yaw Blasu, 'Our Earth, Our Responsibility,' *Evangelical Review of Theology*, Vol. 14, No. 3, July 2017, pp. 254-268, (p. 267).

<sup>104</sup> Deane-Drummond, *Eco-Theology*, p. xi.

<sup>105</sup> Swimme and Tucker, *Journey of the Universe*, p. 11

<sup>106</sup> Swimme and Tucker, *Journey of the Universe*, p. 12.

<sup>107</sup> Deane-Drummond, *Eco-Theology*, p. xi.



that the story of the Earth and that of humans are one. This they do by uncovering the basis for our proper relationship between the origin of the Earth (God), ourselves (humanity) and the environment (cosmos).<sup>108</sup>

Thus, in studying the world of nature from a religious, particularly, a Christian perspective, John Grim and Mary Tucker, in their *Ecology and Religion* prefer to use the term 'ecology'. Defined as the study of the interrelationships of organisms and their surroundings,<sup>109</sup> Grim and Tucker think, rightly in my view, ecology describes the dynamic interactions of humans with nature more specifically than the term *environment*, which can suggest that nature is something apart from humans.<sup>110</sup> They explain that in a Christian worldview of nature or cosmology, the idea of ecology locates humans within the horizon of emergent, interdependent life and does not view humanity as the vanguard of evolution, nor as the exclusive fabricator of technology nor as a species apart from nature.<sup>111</sup>

Invariably the religious reflections include ethics as that which needs to be practised to reorder the vertical and horizontal relationships. In Africa and, hence, Ghana, the major religious domains for such ecological reflections are the Primal, Christian and Islamic traditions, which are all theistic - faith-based religions. It is in this sense that I call the additional or fundamental learning suggested by Deane-Drummond to make the study of environmental science holistic, Ecology as Faith. I have earlier explained that the scientific study of Ecology as Fact analyses the complex interactions within and between ecosystems, but Ecology as Faith examines cultural awareness of and beliefs about these interactions as creative, generative and normative for the continuity of life. The former is about methods of conservation and management of ecosystems and species; the latter helps humans to understand and re-envision their roles as morally responsible participants in the dynamic processes of life.<sup>112</sup>

Therefore, I propose that integrating ecology as faith and as fact promises a hope for providing a more effective impetus in the subject to stimulate creation care. Particularly, in Ghana, and hence, Africa, emphasis on religious ethics is highly commendable. Although economic survival and theistic spirituality are crucial in influencing ecological responsibilities of most Africans, I argue from my work among the Sokpoe-Eve, that our theistic cultural self-understanding of life, if interpreted by the gospel, will contain a motivation that is anterior to the motivation of economic gains.<sup>113</sup> Birgit Meyer's findings among the Peki-Eve suggest that their Christian ecologies and motivation for ecological actions in most cases are based on enchantment of ecosystems and fear of spiritual entities.<sup>114</sup> In an article 'Discerning moral status in the African environment' Fainos Mangena challenged 'the criteria used to confer moral status in the Western environment; namely, reason and sentience.'<sup>115</sup> She introduced '*the state of creation* as the only criterion that recognises and

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<sup>108</sup> Deane-Drummond, *Eco-Theology*, pp. xi-xii.

<sup>109</sup> Grim and Tucker, *Ecology and Religion*, p. 178.

<sup>110</sup> Grim and Tucker, *Ecology and Religion*, p. 62. They define environment as 'the natural setting and conditions in which a biological entity lives [and that it] can refer to smaller ecological niches or larger bioregions or used broadly to the entire natural world on which life depends.' (p. 179). I recall that I had that feeling of humans not being part of nature according to the definitions of Environment in the text books, when teaching Environmental Science (GNSP 101) in 2009 at Okwahu campus of PUCG.

<sup>111</sup> Grim and Tucker, *Ecology and Religion*, p. 62.

<sup>112</sup> Grim and Tucker, *Ecology and Religion*, p. 63.

<sup>113</sup> Ebenezer Yaw Blasu, "'Compensated Reduction' as Motivation for Reducing Deforestation: An African Christian Theological Response," *Journal of African Christian Thought*, Vol. 18, No. 1, June 2015, pp. 18-27 (24).

<sup>114</sup> Meyer, *Translating the Devil*: p. xvii.

<sup>115</sup> Fainos Mangena, 'Discerning Moral Status in the African Environment', *Phronimon* Vol. 14, No. 2, 2013, P. 25. Accessed 28/1/2015 [http://r.search.yahoo.com/\\_ylt=A0LEVzEK4shUnOsA.ORXNyoA](http://r.search.yahoo.com/_ylt=A0LEVzEK4shUnOsA.ORXNyoA). (All emphases were in the original document).

respects the moral agency of both human beings and non-human animals' from the perspectives of African worldviews. She argues that it is because 'African existence depends to a larger extent on the existence of nonhuman beings – animate and inanimate – since they have both a physical and spiritual mode of existence.'<sup>116</sup> I, therefore, proceed next to study the religious worldviews of the Primal, Christian and Islamic traditions in Africa, which underpin their moral praxis of creation care.

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<sup>116</sup> Mangena, 'Discerning Moral Status in the African Environment', P. 25.

## CHAPTER 4

### THE PLACE OF RELIGIOUS WORLDVIEWS IN UNDERSTANDING ECOLOGY

#### 4.1 Worldviews and Their Importance in Religious Ecology

This chapter examines the worldviews, religio-ethical impulses and modes of ecocare praxis of the three major religious traditions in Ghana (and hence, Africa): Primal, Christianity, and Islam. The aim, borrowing the words of Normanul Haq, an Islamic environmentalist, is to recover material from these religious traditions that might serve to illuminate how their cultures regard our current global environmental concerns and guide their thinking about them.<sup>1</sup> Ultimately the information recovered will be a critical intellectual framework in comparatively assessing similar parameters in the religious worldviews of the Sokpoe-Eve as part of the research in this study. In addition, it is to be factored as shared data from the religious ecologies of these traditions in designing a missional and morally transformative African theology curriculum for undergraduates in institutions with religiously plural contexts. Curry argues that 'Pluralism has important implications for any project to bring about a more ecological society.'<sup>2</sup> What then are worldviews, and particularly African worldviews? How do African worldviews affect our relationships to and with the ecological communities or ecosystems in Africa?

A worldview is both a story of origin of the cosmos and mental perception of cosmic phenomena. Andrew Walls calls it a mental 'map of the universe'<sup>3</sup> from which, according to Ogbu Kalu, 'people construct how and why things are the way they are'<sup>4</sup> in the environment of which they are part and live in. He calls it 'mind-world' and explains it as a mental picture that empowers people's actions and endows both rhythm and meaning to life processes.<sup>5</sup> It is the foundation of customs, social norms and law, being embedded in the people's experience and then expressed or re-enacted in their cultures.<sup>6</sup> From Kwame Bediako we may infer that the culture of a substantial social grouping of persons, which give them identity in relation to other social groupings or communities, has two fundamental characteristics or qualities. The first is an internal disposition of the people to envision life within a certain perspective. This is foundational to all that there is about and in culture, and explains why 'culture begins internally'<sup>7</sup> with the mind. The second is that there is a resultant external behaviour from the envisioning of the persons of culture.<sup>8</sup> Bediako's reference to 'culture begins internally' fits in with the understanding of 'worldview' and hence which answers the questions 'who are we' and 'how do we interpret our existence' when 'dealing with culture.'<sup>9</sup>

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<sup>1</sup> S. Nomanul Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction,' in Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), p.125.

<sup>2</sup> Curry, *Ecological Ethics*, p. 25.

<sup>3</sup> Andrew F. Walls, 'African Christianity in the History of Religions' in *The Cross-Cultural Process in Christian History* (Maryknoll, New York: 2002), Chapter 6, p. 122.

<sup>4</sup> Kalu, 'The Sacred Egg' p. 228.

<sup>5</sup> Kalu, 'The Sacred Egg' p. 228.

<sup>6</sup> Kalu, 'The Sacred Egg' p. 228.

<sup>7</sup> Kwame Bediako, 'Gospel and Culture: Some insights for our time from the experience of the earliest Church,' *Journal of African Christian Thought*, Vol. 2, No. 2, December 1999, pp. 8-17 (8).

<sup>8</sup> Bediako, 'Gospel and Culture: Some insights' pp. 8-17 (8).

<sup>9</sup> Bediako, 'Gospel and Culture: Some insights', pp. 8-17 (8).

Explaining the term worldview the ethnologist, Edward Sapir noted some of its contents. He includes things like the ‘patterns of thought, attitudes toward life, conceptions of time, a mental picture of what ought to be, a people’s understanding of their relationship to unseen things and to the order of things, and their view of self and others.’<sup>10</sup> John Grim puts it as ‘a story of the world which informs all aspects of life among a people, giving substance to practices, artistic creation, ritual play and military endeavour a significant content.’<sup>11</sup> From a more ecological perspective Ogbu Kalu defines worldview as ‘the unified picture of the cosmos explained by a system of concepts which order the natural and social rhythms and the place of individuals and communities in them.’<sup>12</sup> In other words, as I understand it, a worldview is a people’s perception of and, hence, inner disposition about reality of the ‘geosphere’ (the earth, its regions and things in it), which informs their outer behaviour in their ecological communities (ecosystems). It is embedded in, interprets their experiences, and so influences their outward behaviour in terms of symbolic expressions, re-enacted cultural beliefs and events, customs and traditions, social norms, values and laws.<sup>13</sup>

It is significant to note that central to both worldview and culture is a ‘personal element’ so that the enacted cultural behaviours and artefacts are ‘all manifestations and signs of the personal elements at the heart of culture.’<sup>14</sup> Said differently, culture and worldview are essentially attributes of persons; it is the responses of human persons to their internal perceptions of the ecosystem that we refer to as eco-cultural behaviours or ethoi. The eco-cultural behaviours of people may affect their ecosystems positively or negatively. Since it underpins culture, worldview, like culture, can be ‘learnt unconsciously but deliberately transmitted’<sup>15</sup> suggesting that it is not static, but responds dynamically as impacted by other cultures/worldviews. Kalu believes that the impact of Western worldviews, through their cultural influences on Africa, erode the salient values of the African indigenous worldviews and cultural ethoi without providing adequate replacements. Andrew Walls sees it as changing the conventionally identified components of religious systems in Africa under the pressure of internal or external forces.<sup>16</sup> The result is cultural tension and lack of discipline,<sup>17</sup> particularly regarding moral care for the African environment.

The tension appears also in research difficulties in retrieving relevant and reliable information from Africans to ‘remove the slurs and misconceptions created by foreign

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<sup>10</sup> Edward Sapir, *Selected Writings of Edward Sapir in Language, Culture and Personality*, ed., D. G. Mandelbaum, (Berkeley: University of California Press, 1958), p. 548.

<sup>11</sup> Mary Evelyn Tucker and John Grim, eds., *Worldviews and Ecology*, (Lewisburg, Pa: Bucknell University Press, 1993), p. 42.

<sup>12</sup> Ogbu U. Kalu, ‘Precarious Vision: The African’s Perception of His World’ in O. U. Kalu, (ed.), *Readings in African humanities: African Cultural Development*, (Nigeria: Fourth Dimension Publishers, 1980), p. 39.

<sup>13</sup> In their article ‘The Study of African culture,’ H. N. Nwosu and O. U. Kalu observe that the most common cultural symbol is language, being the major instrument for expressing ideas, thoughts, feelings and sentiments as realities about and in the ecological community. The mass of detailed standard behaviours and principles or various shared components of life transmitted over the years in the community are the traditional customs. But customary behaviours and lifestyles are themselves guided by values and norms. The values are widely held beliefs or sentiments about which activities, relationships, feelings or goals are important for the wellbeing of the ecological community. Norms stem from values and prescribe specific rules, blue-prints and procedures to guide conduct in specific situations. (See H. N. Nwosu and O. U. Kalu, ‘The Study of African Culture,’ in O. U. Kalu (ed.), *Readings in African humanities: African Cultural Development*, (Nigeria: Fourth Dimension Publishers, 1980), p. 4.

<sup>14</sup> Bediako, ‘Gospel and Culture: Some insights’, pp. 8-17 (8).

<sup>15</sup> Kalu, ‘The Sacred Egg’, pp. 230-231.

<sup>16</sup> Andrew F. Walls, ‘African Christianity in the History of Religions’ in *The Cross-Cultural Process in Christian History* (Maryknoll, New York: 2002), Chapter 6, p. 124.

<sup>17</sup> Kalu, ‘The Sacred Egg’, p. 231.

scholars,<sup>18</sup> what Nwosu and Kalu blame on 'years of acculturation in western culture and the current system of education in Africa.'<sup>19</sup>

Nevertheless, worldviews display substantial durability, while accepting external influences. This may be because human beings who are central to worldview and culture can be 'conservative and resistant to change.'<sup>20</sup> Gillian M. Bediako, comparing the tenacity of primal religion to worldview, believes that it is very rare for a worldview to be entirely destroyed and replaced; rather people tend to modify their maps of reality, correcting, adapting, and altering the sizes of items on it.<sup>21</sup>

Despite internal and external influences African cultures are not necessarily left without any retrievable indigenous environmental principles, values and ethoi from their myths of origin (cosmology), and hence, worldviews. In African cultures there are many myths of origin, outlining myriads of corresponding worldviews, which are religious in nature and largely ethno-centric. For instance, Andrew Walls observes that there are conventionally four component entities identified in the religious systems in Africa, and hence their underpinning worldviews: God, divinities, ancestors, and objects of power. Yet they vary as to which component is the dominating one.<sup>22</sup>

Thus it is over generalisation to speak of *the* African worldview by identifying broad features that unify our myriads of worldviews to be representatively *the* African. However, from Andrew Walls we may note, at least, that the 'conventionally identified common components',<sup>23</sup> may be distinct from the worldviews of other 'cultural areas'<sup>24</sup> such as the global North. Ogbu Kalu observes that 'underlying the varieties of cultures in Africa is a core worldview structure'<sup>25</sup> and they share a deep-seated meaning.<sup>26</sup> With this in mind and concerning myths of origin in particular Kalu concludes that from 'the myriads of cosmologies a model can be constructed representing the basic and common features in Africa.'<sup>27</sup> He observes, however, that each myth of origin is couched in religious, numinous terms: creation was the act of a Supreme Being utilizing the services of subaltern deities. The divine origin confers a sacred shroud on the created beings and the social order.<sup>28</sup> This suggests a theistic religious mind-view of the world (creation, creator and humanity) in the religious traditions in Africa, which underpin their ecological attitudes and behaviours.

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<sup>18</sup> H. N. Nwosu and O. U. Kalu, 'The Study of African Culture', in Ogbu Kalu (ed.), *Readings in African humanities: African Cultural Development*, (Nigeria: Fourth Dimension Publishers, 1980), p. 14. In other words, it is not easy for African scholars now seeking to evolve more critical literature, to solicit unadulterated African cultural, and hence worldviews, data from Africans themselves, be it from oral or existing literature. This is partly because some Africans and African scholars tend to be defensive and romantic about the African past, while others, seek to be authentically African, yet employ European theories uncritically in producing 'literature of tutelage.' See Nwaosu and Kalu, p.14.

<sup>19</sup> Nwosu and Kalu, 'The Study of African Culture', p. 14.

<sup>20</sup> Bediako, 'Gospel and Culture: Some insights', pp. 8-17 (8).

<sup>21</sup> Gillian Mary Bediako, Editorial to 'Primal Religion as the Substructure of Christianity – Theological and Phenomenological Perspectives', *Journal of African Christian Thought*, Vol. 11, No. 2, Dec. 2008, p. 1.

<sup>22</sup> Walls, 'African Christianity in the History of Religions', p. 124.

<sup>23</sup> Walls, 'African Christianity in the History of Religions', p. 124.

<sup>24</sup> Nwosu and Kalu define 'A cultural area' as 'a geographical area occupied by peoples whose culture exhibit a significant degree of similarity with each other as well as a significant dissimilarity with cultures of others' (See Nwosu and Kalu, 'The Study of African Culture', p. 6.)

<sup>25</sup> Kalu, 'The Sacred Egg', p. 231.

<sup>26</sup> Kalu, 'The Sacred Egg', p. 228.

<sup>27</sup> Kalu, 'Precarious Vision', p. 39. Kalu considers 'cosmology' as the 'impressive term for worldview.' However, I contend that worldview is a broader concept than cosmology (the scientific study of the universe and its origin). The latter is just one element of a people's worldview, which is their entire mind-picture or intellectual ordering of reality of life in space-time continuum.

<sup>28</sup> Kalu, 'The Sacred Egg', p. 228.

## 4.2 Creation, Creator and Humanity in African Primal Worldviews

Two authors have made illuminating contributions to understanding a phenomenological structure for the religious worldviews of Africa. Harold Turner developed in 1977 a six-feature structure for analysing the primal religions of indigenous ecological communities in the world.<sup>29</sup> Ogbu U. Kalu in 1978, contributed to understanding a phenomenological structure for African worldviews from the many ethnocentric myths of origin through his studies on 'The African Perception of His World',<sup>30</sup> His diagrammatic presentation summarises his conception and description of a structure that is a depiction of African worldviews (Fig. 1). I propose to use Kalu's diagram in analysing the structure of African primal worldviews. Nevertheless, it is important to observe here a problem with Kalu's diagram: it is a perceived structure of African worldviews, but may wrongly imply all these features are present within every cultural group in Africa. Not all African societies display all these features.<sup>31</sup> In reality within it are multiple worldviews or multiple maps of reality. Kalu himself rightly noted that 'details may vary, even within an ethnic group.'<sup>32</sup>

Like Kalu, my interest here is not in mining the depths of these worldviews, but in focusing on their structure, with its predominantly religious character<sup>33</sup> and particularly on its implications for shaping the moral attitudes and behaviours of Africans as they relate to and with creation in their ecological communities. For, primal Africans' attitude and behaviours toward creation are informed by the understanding that their survival and identity as a people depend on their 'bonded' view of and relationship with the structured natural environment.<sup>34</sup>

### 4.2.1 A Structure of the Primal Worldviews in Africa

In formulating a phenomenological structure of African worldviews Kalu bases his diagram on Time-Space concept, because of the perception that space and time encapsulate most other experiences.<sup>35</sup> He does so not unaware of problems with the concept in Africa. For instance, in the cosmic structure of the Mafi-Eve among the Tɔŋu-Eve in Volta Region of Ghana, Agbanu observes that their 'environment is more than... a matter of quantified period of time or spread of space.'<sup>36</sup> He does not explain what he means exactly, but it suggests that the African concepts of time and space are problematic. Kalu points out how scholars still debate the concept of time among Africans. The argument is over whether the African mind perceives distant future or not, since we tend to reckon time not in a linear continuum (*chronos*), but based on cyclical events (*kairos*). So also is the African conception of space. We end up pointing to the sky, Earth and underground when questioned about the universe (*cosmos*); implying there are three existential dimensions of space.<sup>37</sup>

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<sup>29</sup> Harold Turner, 'The Primal Religions of the World and their Study'.

<sup>30</sup> Kalu, 'The Sacred Egg,' p. 231.

<sup>31</sup> Walls, 'African Christianity in the History of Religions' p. 123.

<sup>32</sup> Kalu, 'The Sacred Egg,' p. 231.

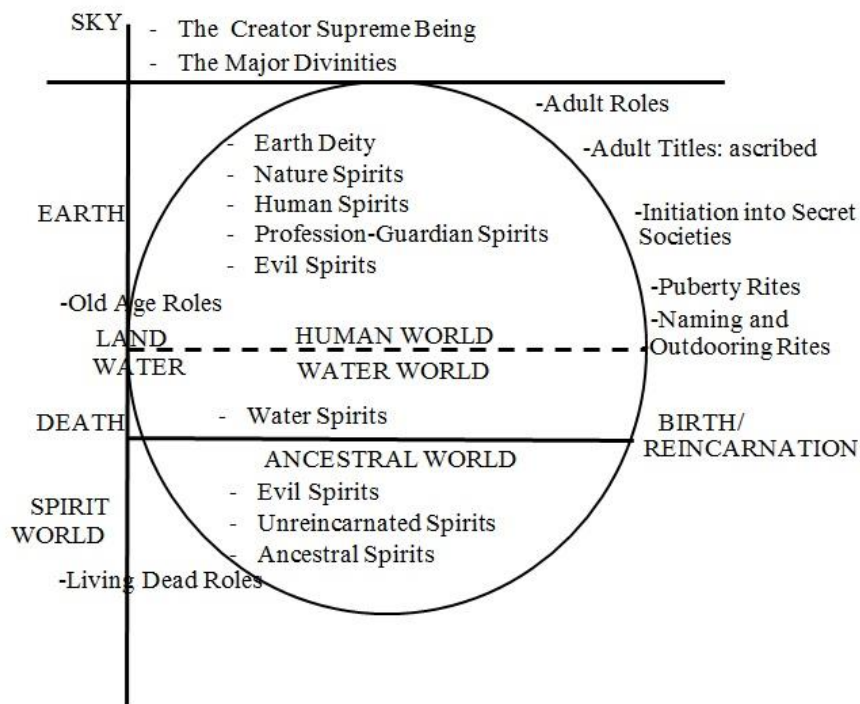
<sup>33</sup> Kalu, 'The Sacred Egg', p. 234.

<sup>34</sup> Sindima, 'Community of Life', pp.137-147.

<sup>35</sup> Kalu, 'Precarious Vision', p. 39.

<sup>36</sup> Lawrence Harry K. Agbanu, 'Environmental Ethics in Mafi-Eve Indigenous Culture,' (University of Ghana, Legon: Unpublished PhD Dissertation, 2011), p. 95.

<sup>37</sup> Kalu, 'Precarious Vision', pp. 39-40.



**Fig. 4.1A General Structure of African Worldviews**

Source: Adapted from Ogbu U. Kalu's 'The African's Perception of His World', 1978<sup>38</sup>

#### 4.2.2 Creation as Space and Nonhuman Creatures

With regards to African spatial conceptions in Fig. 4.1 three horizontal rectangular boxes represent three but united dimensions of space: the Sky at the top, in the middle is the Earth (made up of land and water) and beneath the Earth is the Spirit world (i.e. spirits other than the Supreme Spirit Being). According to Kalu the sky is the abode of the Supreme Spiritual Being as the Creator and, Kwame Bediako may add for indigenous cosmologies, 'the Sustainer of the universe.'<sup>39</sup> The sky is also occupied by the major divinities: sun, lightning, thunder and the like. The sky divinities are usually males and serve as judges, so people swear by them particularly in verifying ecological moral conduct. I am aware that the adherents of *yeye* cult in Sokpoe ecological area in Volta region, Ghana swear by lightning and thunder as Kalu notes. In Kalu's diagram the moon, on the other hand, is female deity whose light inspires environmental aesthetics, creativity, songs and dances.<sup>40</sup> This may not be the case in every African culture.

The second dimension of space, the earthly space, is occupied by both human and nonhuman creatures - rocks, mountains, water bodies, flora and fauna - that are features of land and water ecosystems. Most of these earthly features are sacralised, because some African mythologies hold it that they had been inhabited by the divinities that formed land out of the anthill in the marsh.<sup>41</sup> For instance, as Kalu notes, some common trees in West Africa revered as being imbued with spirits include: those with massive trunks and buttresses such as silk-cotton tree (*Eriodendron orientale*), iroko (*Chlorophora excels*), or

<sup>38</sup> See Kalu, 'Precarious Vision', p. 43 or Kalu, 'The Sacred Egg' p. 232.

<sup>39</sup> Kwame Bediako, *Jesus in Africa: The Christian Gospel in African History and Experience*, (UK: Editions Clé and Regnum Africa, 2000, 2004), p. 22.

<sup>40</sup> Kalu, 'The Sacred Egg', p. 234.

<sup>41</sup> According to Kalu, 'The Sacred Egg', p. 235.

baobab (*Adansonia digitata*). African satinwood (*Cordia milleni*) is inhabited by a musically inclined spirit which renders it useful for making drums. Also, abnormal trees attract dread e.g. a palm tree with seven trunks or sixteen branches; and mystic trees, like one in Gbarnga, Liberia, which re-erected itself on its stump after being axed down for firewood even with the axe wounds still present. In addition, are trees or shrubs at cross-junctions or forked roads, entrance to a village or centre of market are sacred.<sup>42</sup> Similarly, Harry Agbanu notes that the Mafi-Eve ascribes ‘very high magico-religious value to some individual trees and animal species.’ These include: Klɔ (*Piliostigma thonningii*), Logblovi (*Tipananthus species*), Fefeti (*Locaniodiscus cupanoides*), Mango (*Magnifera indica*), Fɔti (*Vitex domiana*), Akukɔti (*Spondias mombin*), Deti (*Elaeis guineensis*), Yɔkuti (*Vitellaria paradoxa*), Adidoti (*Adansonia digitata*), Wɔti (*Parkia biglobosa*) and Uuti (*Ceiba pentandra*).<sup>43</sup>

While ‘people in savannah zones tend to use hills as shrines for sending messages to God’<sup>44</sup> the Mafi-Eve ‘conceive of the land – the living environment – as sacred’ and ‘regards the earth/land as a [deity]’ who is mentioned first before other divinities in traditional prayers.<sup>45</sup> For instance, the *Kpɔdoave* forest at Mafi Dugame is sacred, because it is the abode of their arch-divinity *Kasangble*, who provides security and general welfare to the community members home and abroad.<sup>46</sup> My own Zoyi clan of Sokpoe sacralise *Alɔlɔdzove* and prohibit menstruating women entering it, because their *Alɔlɔdzo* deity inhabits it and provides a security function for them. In some African worldviews, the Earth as a female divinity not only nurtures the communities with her agro-fertility, but makes land so sacred that people swear by her.<sup>47</sup> Among the Mafi-Eve it is believed that the Earth is able to impose punishment on anyone accursed with her.<sup>48</sup>

The third dimension of space in Kalu’s diagram described as ‘spirit world’ occurs beneath the Earth. It contains the human ancestral spirits, non-reincarnated spirits and evil spirits. Kwame Bediako refers to it as the ‘spiritual environment’ which although is the realm of the invisible, yet is affirmed by many Africans as real.<sup>49</sup> In Kalu’s diagram both the Sky and Spirit world rectangles are open at the upper and lower ends, respectively, suggesting a seamless or continues communication between them since ‘all the spaces are united.’<sup>50</sup> He does not categorically point this out, but the openness into each other of the Sky (above the Earth) and Spirit world (beneath the Earth) may suggest that in African views of the earthly space (the human world), we perceive only one other real ‘space’, part of which is above and the other part is under the Earth. It is the spirit world, the space for spiritual entities: the ancestors, the divinities and the Supreme Being.<sup>51</sup> Kwame Bediako underscores the concept of one ‘spirit space’ juxtaposed to ‘human space’ in the ecosphere when he observes about Akan cosmology only one ‘spirit world on which human [world of] existence is believed to depend.’<sup>52</sup> He sees in this spirit world not only ‘God, the Supreme Spirit Being (*Onyame*), Creator and Sustainer of the universe,’ but also that ‘Subordinate to God, with delegated authority from God, are the “gods”(abosom) sometimes referred to as children of God (*Nyamemma*), and the ancestors or “spirit fathers” (*Nsamanfo*).’<sup>53</sup> It is also significant to note

<sup>42</sup> Kalu, ‘The Sacred Egg’, p. 235.

<sup>43</sup> Agbanu, ‘Environmental Ethics in Mafi-Eve Indigenous Culture’, p.108.

<sup>44</sup> Kalu, ‘The Sacred Egg’, p. 235.

<sup>45</sup> Agbanu, ‘Environmental Ethics in Mafi-Eve Indigenous Culture’, p. 98.

<sup>46</sup> Agbanu, ‘Environmental Ethics in Mafi-Eve Indigenous Culture’, p. 104.

<sup>47</sup> Kalu, ‘The Sacred Egg’, p. 235.

<sup>48</sup> Agbanu, ‘Environmental Ethics in Mafi-Eve Indigenous Culture’, p. 98.

<sup>49</sup> Bediako, ‘Gospel and Culture: Some insights’ pp. 8-17 (8).

<sup>50</sup> Kalu, ‘The Sacred Egg’, p. 234.

<sup>51</sup> Kalu, ‘The Sacred Egg’, p. 234.

<sup>52</sup> Bediako, *Jesus in Africa*, p. 22.

<sup>53</sup> Bediako, *Jesus in Africa*, p. 22.



that in Kalu's diagram both the human world and the entire spirit world are existentially contiguous as evidenced by the presence of spirit entities – Earth deity, nature spirits, human spirits, guardian spirits and evil spirits – located in the human world also. So spirit entities have their loci in all three dimensions of space, implying, in the worldviews of Africans, spirit existence is not necessarily spatially limited. Kalu points out that although there are three dimensions of space they are all united and that in the people's consciousness each space is imbued with powerful forces.<sup>54</sup>

I consider that the prevalence of various spiritual entities through all three dimensions of space underscores the conception of African worldviews as not only religious, but specifically theistic. Kalu describes it as 'the sacralization of the environment.'<sup>55</sup> When John S. Mbiti asserts that the daily life of the African people are notoriously religious and that religion permeates into all the departments of life so that it is not easy or possible to isolate it<sup>56</sup> he reinforces that African worldviews, which underpin African religiosity as a cultural phenomenon<sup>57</sup> is characteristically religious and theistic.

Yet it appears that in ordinary life experiences the primal African worldviews are not necessarily theocentric, particularly since not all cultures have God-dominant worldviews. But even in God-dominant religious systems, the Supreme Being or God is not necessarily central, pivotal or the frontline power that people focused attention on for immediate and direct reach; the subordinate divinities and the ancestors may even be more paramount. It is not God, but either deities (such as at Sokpoe) or both deities and ancestors (such as at Mafi), who are feared in connection with environmental taboos. Discussing environmental management from indigenous resources among the Kikuyu of Kenya, Julius Gathogo premised his argument that the indigenous Kikuyu people were encouraged to preserve the environment by their belief in the sacredness of nature. 'Therefore, the ecological concern for people in Mutira ... was tantamount to co-working *with* [NOT because of or for] God.'<sup>58</sup> They practise an environmental management based on religious but not theocentric cosmology. As noted earlier, Andrew Walls asserts that the identified dominant components of a 'primal map' or worldview could be altered by differing circumstances and cultures. He calls it 'the reordering of African worldviews.'<sup>59</sup> In that case God or the Supreme Being may not always remain central in all life circumstances in the ecosystems.

#### 4.2.3 Humanity in Creation and the Phenomenon of Time in Primal Religion

Another concept palpable from Ogbu Kalu's diagrammatic construction of African worldviews is depicted by the other (apart from the rectangles) major geometric shape on the diagram, a circle. Kalu seems to use the space occupied by the circle to illustrate interrelations in the ecosphere while the circumference depicts the cyclic concept of time and hence life, particularly human life. Tumai Nyajeka concludes in a study that 'Life is an organic web. The living and the dead are united. The spiritual and the manifest worlds flow

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<sup>54</sup> Kalu, 'The Sacred Egg', p. 234.

<sup>55</sup> Kalu, 'The Sacred Egg', p. 240.

<sup>56</sup> John S. Mbiti, *African Religions and Philosophy*, 2ed. (Oxford: Heinemann, 1990), p.1. See also J. S. Mbiti, *Introduction to African Religion*, 2ed. (Illinois, USA: Waveland Press, 1975), p.30.

<sup>57</sup> Kalu, 'The Sacred Egg', p. 229.

<sup>58</sup> Julius Gathogo, 'Environmental management and African indigenous resources: echoes from Mutira Mission, Kenya (1912-2012)', accessed 28/1/2015, (<http://uir.unisa.ac.za/bitstream/handle/10500/13127/Gathogo.pdf?sequence=1>), p.1. Emphasis mine.

<sup>59</sup> Walls, 'African Christianity in the History of Religions,' p.123. See also Gillian Bediako, Editorial to 'Primal Religion as the Substructure of Christianity', p. 2.

together in a circle.<sup>60</sup> How the span of human life flows cyclically between the physical and spiritual spaces in the ecosphere is understood and explained with the conception of time. In other words, to speak of the African's life span during which we engage in various ecological practices and relations in an ecosystem is to invite the concept of time in the African cosmology.

In timing life, Kalu agrees with Mircea Eliade, who argues that traditional societies construct the concept of time around the movement of the agricultural season – a repetitive eternal cycle from planting to harvesting<sup>61</sup> crops or raising to disposal of animals. Kalu likens human life to the cyclic pattern of the nonhuman. It moves from 'birth, through accession to various stages ... until death'<sup>62</sup> only to begin a new stage of living as 'the personality soul of the individual journeys through the spirit world until reincarnation'<sup>63</sup> in cultures that so believe. Therefore his diagram shows human life moving anticlockwise, perhaps illustrating the diminishing of the span in the physical/human world with time, to death at the left-end of the diameter, within the earthly space.

First of all humanity is created by God, the Supreme Being. As Samuel Agboklu put it in an interview:

The primal religionist knows that *Mawu* (God) the Most High is the creator of humanity and everything on Earth. Thus he is called *Sogbolisa*, *Okitikata* (the unchallengeable creator), the Craftsman, and Worker of the good. He created hand and foot, the Earth and all in it. He used clay to create human and breathed breath/spirit into it.<sup>64</sup>

God, however, gifted humanity the ability to continue procreating its kind.<sup>65</sup> In an interview Enyi Avenogbo is certain that *amegbetɔ la ηutsu kple nyɔnu yee dzie* (human is born of a man and a woman).<sup>66</sup> The human body is constituted of three things: *ηutilã* (flesh), *vu* (blood) - both of which are essentially from and of soil and water; and *gbɔgbɔ* (spirit) released by God into the human creature.<sup>67</sup> Explaining his views in another interview Kɔwu Yɔhokpɔ believes that *gbɔgbɔ* as a third constituent of human body is the invisible aspect of human being; it is like *yafofo* (wind/breath) from God. This explains why a dying person *nɔa amamu dzi* (gasps for breath), because *eƒe gbɔgbɔ le tsitsim* (the available air in it diminishes toward an end).<sup>68</sup> But after the physical exit life then journeys through the ancestral world, with 'living-dead roles,' until, in some cultures, it returns to human world through reincarnation at the right-end of the diameter. African worldviews of life then denote a contiguous phenomenon; it is also not clearly hierarchical.<sup>69</sup>

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<sup>60</sup> Tumai Nyajeka, 'Shona Women and the Mutupo Principle,' in *Women Healing Earth: Third World Women on Ecology, Feminism and Religion*, in Reuther, Rosemary Radford, ed., (Maryknoll, NY: Orbis Books, 1996). pp. 135-142. See also Kalu, 'The Sacred Egg', p. 234.

<sup>61</sup> Mircea Eliade, *The Sacred and the Profane: The Nature of Religion*, trans. Willard R. Trask, (NY: Harcourt, Brace, 1959). See also Kalu, 'The Sacred Egg', p. 231.

<sup>62</sup> Kalu, 'The Sacred Egg', p. 232.

<sup>63</sup> Kalu, 'The Sacred Egg', p. 232.

<sup>64</sup> Samuel Agboklu, interview at Sokpoe, 2 March 2016. See appendix A1 for transcription. The same understanding and names of God were expressed by Geoffrey Siame, interview at Sokpoe on 17 February 2016.

<sup>65</sup> Geoffrey Siame, telephone interview, 6 April, 2017.

<sup>66</sup> Enyi Avenogbo, interview, Elavanyo, 2 February 2016. See also Kofi Avinyo Atiglo, interview Elavanyo, 15 February 2016.

<sup>67</sup> Geoffrey Siame, interview at Sogakɔƒe, 17 February 2016.

<sup>68</sup> Kofi Avinyo Atiglo, interview, Elavanyo, 15 Feb 2016.

<sup>69</sup> Kalu, 'The Sacred Egg', p. 234.

#### 4.2.4 The Purpose of Creation and Humanity

Although neither Ogbu Kalu nor other scholars spell out categorically what primal religionists in Africa see as the purpose of creation and especially humanity, some ideas may be gleaned from my work among the primal Sokpoe-Eve. One such basic idea is the anthropocentric conception of creation as being there just to support human life; and that humanity is to procreate while depending on creation's resourcefulness. They were unable to tell clearly the role of humanity on Earth apart from procreation as continuation of God's creative activity. Amega Enyi Avenogbo does not know humans' purpose, except that humans perpetuate their kind through sexual reproduction.<sup>70</sup> Atiglo Avinyo mentions procreation and feeding for one's family even though ultimately it is God, through the deities 'who cares for all of us', where 'all of us' means 'both human and nonhuman creation on the Earth.'<sup>71</sup> In a telephone interview, Geoffrey Siame implies that the main purpose or role of humanity is for us 'to represent God' in all that God does in the world.

In the understanding of our ancestors God created humans to represent him. So he made us in his image. But since he is invisible we craft *legbawo* (images) like humans or other creatures, which act as messengers between us and God. If there is any other role it is procreation. As creator he gave us opportunity to also procreate, and provided all things to enable us perform these duties in the environment for our use.<sup>72</sup>

Perhaps Geoffrey Siame might have been influenced by his basic education in Christian school in stating that God created humans in his own image and as his representatives. However, rationalising his and all the other responses it is deducible that in the Sokpoe-Eve primal religious thought of participants, God creates and gave humanity ability to procreate; God cares for all creation and enables humanity to care for its family. In a sense then humanity images God, at least, in his creation and caring activities. But God's caring activity is through the deities, and eventually, humanity, as Avinyo explains; wherefore humanity represents God or participates in God's creation-care activity on Earth. But nonhuman creation remains to only instrumentally provide for the well-being of humanity in a precarious environment.

Perhaps the holistic and abiding interconnected nature of primal religious view of the world contributes to the difficulty in identifying categorical and distinctive purposes for creation and humanity. Kwame Bediako argues that the primal religious worldview is not only 'decidedly *this-worldly*,' but also that 'this *this-worldliness* encompasses God and [humanity] in abiding relationship with God - which is the destiny of humanity, and the purpose and goal of the universe.'<sup>73</sup> By 'universe' Bediako implies both human and nonhuman creation; and that their destiny or ultimate purpose is to work mutually toward sustaining the abiding interconnectivity. In other words, in the primal religious worldview there is no transcendent 'spiritual world separate from the realm of regular human existence' where also are the nonhuman creatures. Theoretically, the purpose, then, of 'human existence is to participate in the constant interplay of the divine-human encounter'<sup>74</sup> to sustain all creation. Yet in practice, at least, from observations among the Sokpoe-Eve, human-nature relations are anthropocentric.

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<sup>70</sup> Enyi Avenogbo, interview, Elavanyo, 2 February 2016.

<sup>71</sup> Kofi Avinyo Atiglo, interview, Elavanyo, 15 February 2016

<sup>72</sup> Geoffrey Siame, telephone interview, 6 April, 2017. (See Appendix A2 for transcript)

<sup>73</sup> Bediako, *Jesus in Africa*, p. 92.

<sup>74</sup> Bediako, *Jesus in Africa*, p. 92.

Expectedly, these conceptions of the universe have shaped and underpinned African primal religiosity and the subsequent attitudes and behaviours to creation. But Allison Howell bemoans that the spiritual engagement with land and water, once part of the fabric of African spirituality, seems to have become unravelled in our time, especially with relationship to illegal gold mining and also in other ecological areas as well.<sup>75</sup> Or could this engagement be more observable from the other religious traditions - Islam and Christianity?

### 4.3 Creation, Creator and Humanity in Islamic Worldviews

By Islamic<sup>76</sup> as an adjective I imply discovering the meaning of nature and humankind's relationship with it from the perspectives of the Qur'an and Prophetic Traditions<sup>77</sup> rather than from any one particular Islamic sect or movement. Writing the introduction to his co-edited *Islam and Ecology*, Richard C. Foltz indicates that from its origin fourteen centuries ago Islam offers a basis for ecological understanding and stewardship from the Qur'an, *Sunna* (Prophetic deeds of Muhammad) and *hadiths* (Prophetic words of Muhammad). These sources provide the principles for Islamic Way of life or Law, the *sharī'a*,<sup>78</sup> and so are the main sources of Islamic ecological knowledge, in which Muslims look for authoritative answers to the questions about the natural environment.<sup>79</sup> Yet the articulation of Islamic ethics to guide human-natural environment relations in contemporary terms – recognising the urgency of the global crisis now facing us all – is quite new. It started with American-trained Iranian Shi'ite philosopher Seyyed Hossein Nasr in 1966.<sup>80</sup> In other words, Islamic environmental law, with its undergirding worldview, is not yet recognised as an independent discipline within the Islamic *sharī'a*.<sup>81</sup> Nevertheless, as S. Normanul Haq contends, given the durability of classical Islamic civilization, one may legitimately seek ideas from Islam to guide the struggle against the environmental problems that threaten our globe today.<sup>82</sup>

Qur'anic worldview is about *God* and how *humans* can comprehend his existence and presence through the *natural world*.<sup>83</sup> S. Normanul Haq observes that concerning the cosmos and its relationship to human beings, the Qur'an moves at three simultaneous levels - the

<sup>75</sup> Allison M. Howell, "African spirituality and Christian ministry: 'Discerning the signs of the times' in our environment and community", (Unpublished 9th Kwame Bediako Memorial Lecture, British Council, Accra, 7 June 2017), p.1.

<sup>76</sup> I use "Islamic" to stand for mainstream or classical Islam or 'Islam in its intended form' as Saadia Khawar Khan Chishti calls it. He prefers to use 'Qur'anic' instead of 'Islamic' because there are 'un-Islamic practices' today, which are 'misinterpretations or misrepresentations of the pristine intents of al-Qur'an.' See Saadia Khawar Khan Chishti, '*Fitra: An Islamic Model for Humans and the Environment*' in Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), p. 81, note 3.

<sup>77</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 5.

<sup>78</sup> Richard C. Foltz, 'Introduction' to Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), pp. xxxvii-xxxviii.

<sup>79</sup> Yasin Dutton, 'The Environmental Crisis of Our Time: A Muslim Response', in Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), p. 325.

<sup>80</sup> Foltz, 'Introduction' to *Islam and Ecology*, p. xxxviii.

<sup>81</sup> Othman Abd-Ar-Rahman Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law' in Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), p. 186.

<sup>82</sup> S. Normanul Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction,' in Foltz, Richard C., Denny, Frederick M. and Baharuddin, Azizan, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), p. 145.

<sup>83</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 6. [Italic emphasis is mine]

metaphysical, human and naturalistic. Yet all three dimensions or levels turn out to interrelate with no ontological separation between the divine and the natural environment, generating a particular conscious human attitude to the world as a whole.<sup>84</sup> In other words, there is a sacred dimension of nature as a creation of God, which is in Islam but missing in modern scientific worldviews; and human beings are not separate from or above nature, but rather are part of the web of life.<sup>85</sup> There is then an Islamic theology - belief in relationships between God, humans and nonhuman creation - and may be comprehended at these three dimensions.

#### 4.3.1 The Creator of Our Home (Earth) in Islamic Understanding

At the metaphysical dimension, which comes first and precedes the other dimensions,<sup>86</sup> 'God, according to the Qur'an, is the real Creator, Owner, and Sustainer of all reality (Qur'an 2:29).'<sup>87</sup> The Qur'anic revelations that particularly awaken instinctual Islamic worldviews are within the 86 *suras* (chapters)<sup>88</sup> the Prophet of Islam received in the cave of Hira on Mount Jabal al-Nur during his Meccan mission period.<sup>89</sup> One such text is Qur'an 96:1 'Read in the name of your Lord and Sustainer who created...' From this text Ibrahim Özdemiş argues that at the very beginning it is taught that God gives existence and meaning to everything else.<sup>90</sup> He debunks from Islamic theological perspectives, the scientific notion that nature is the result of accidental evolution or chaotic configurations, without meaning or purpose.<sup>91</sup> Perhaps Özdemiş is referring to the fact that scientific evolution theories try to arrange a systematic and chronological out-birthing of the complex cosmos.<sup>92</sup> The scientific fact may be convincing to many, but still limited to only the 'observable universe' and significantly unable to explain the source of the already existing 'single point' mixture of visible 'luminous matter' and the invisible 'dark matter' that 'was trillions of degrees hot and that instantly rushed apart' to become 'all of space and time and mass and energy.'<sup>93</sup> To the Muslim, just as the Christian, the source of even that single point of matter that may have evolved into the cosmos over billions of years in scientific assertions is still God.<sup>94</sup> Yet it is not also the case that certain things and phenomena in the created order, particularly in connection with the physical world, cannot be explained by and with science. The invention of modern medical practices, and any impacts - positive or negative - on animal (human and nonhuman) life, for instance, might not have been possible without knowledge of the natural sciences - Biology, Chemistry and Physics. Nonetheless, to the theistic religious person like the Muslim, both the knowledge and substances employed in medical science are ultimately the works and

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<sup>84</sup> Haq, S. Nomanul, 'Islam and Ecology: Toward Retrieval and Reconstruction,' in Foltz, Richard C., Denny, Frederick M. and Baharuddin, Azizan, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), pp. 125-126.

<sup>85</sup> Özdemiş, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 4.

<sup>86</sup> Özdemiş, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 10.

<sup>87</sup> Özdemiş, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 7.

<sup>88</sup> John Azumah, *My Neighbour's Faith: Islam Explained for Christians*, (Nairobi, Kenya: Hippo Books Ltd., 2008), p.48.

<sup>89</sup> Özdemiş, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 6.

<sup>90</sup> Özdemiş, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 7.

<sup>91</sup> Özdemiş, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 8.

<sup>92</sup> Swimme and Tucker, *Journey of the Universe*, p. 2.

<sup>93</sup> Swimme and Tucker, *Journey of the Universe*, p. 5.

<sup>94</sup> David Bookless, *Planetwise*, (UK, Nottingham: Intervarsity Press, 2008), p. 20 points out that the difference between Biblical cosmology and those of others is that only God creates out of nothing, while other accounts either have an already existing material from which the world is shaped or the world just emanated from a creator.

provisions of the creator God. He created all things, and did so with and for a deliberate purpose.

#### 4.3.2 Creation and Its Purpose in Islamic View

The Muslim participants in this study at Sokpoe ecological area consist mostly of long-term settlers from West African Islamic countries and a few indigenes converted to Islam. Their responses suggest, for instance, that they, like both the traditionalists and Christians, have two-fold view of *xexeme* (creation). On one hand it is the spatially structured cosmic place for life now in temporality on Earth, stretching from the earth-surface through the atmosphere up to and including the sky. As a place for temporal life, *xexeme* consists structurally of the first of seven or eight Earths, its atmosphere and the sky, which is the first of seven or eight heavens. The Qur'an, and hence Islamic cosmology, however, mentions 'seven heavens and the earth' in the universe (Qur'an 17:44). For Muslims in Sokpoe eco-area only the first heaven and first Earth constitute *xexeme*, because they are perceptible and knowable. Both human and nonhuman creatures as well as non-living creations occupy *xexeme*.

The Qur'an emphasises why creation exists and what it means, bestowing a transcendental significance on it as *āya* (sign of or pointer) to God. Creation is an emblem of God, a means through which God speaks to humanity<sup>95</sup> about himself as 'a Creator who is All-Powerful, All-Knowing and All-Merciful.'<sup>96</sup> Nature is then a 'Book' just like the Qur'an, with the same author, God.<sup>97</sup> Seyyed Hossein Nasr calls them 'Cosmic Qur'an and Recorded Qur'an', respectively.<sup>98</sup> Muslims, therefore, regard both creation and the Qur'anic verses as *āyat*, signs or pointers to God.<sup>99</sup> A further inference is that, as God reveals and manifests himself through his creation, it gives humans the impression that God is within us.<sup>100</sup> In other words, Muslims do not think that God abandoned his creation, but is ever concerned with and involved in its sustenance - providing food, water, crops *et cetera* (Qur'an 80:24-32). Thus, in Islam 'nature is sacred but not divine, for divinity belongs to God alone' who being 'All-Sacred' cannot but create only a sacred cosmos that reflects his wisdom.<sup>101</sup>

In addition, Qur'an speaks of the cosmos as an integral system governed by a set of immutable laws, the natural laws, which embody God's command (*amr*, plural *āwamir*). Since nature cannot but strictly submit to its *amr*, resulting in its observed coherent interconnectivity, order and regularity<sup>102</sup> Qur'an regards nature's obedience to manifest God's glory as submission. This makes nature an imperative *Muslim* (submissive). Qur'an 22:18 states: 'Don't you see that to God bow down in worship all things that are in the heavens and on Earth,- the sun, the moon, the stars; the hills, the trees, the animals; and a great number among mankind...?' As Özdemir explains the only difference between nonhuman creation and humankind is that the former is *Muslim* without free will, implying that only humankind can be Muslim through free choice morally.<sup>103</sup> Thus in Islamic theology biogeophysical cycles, for instance, as natural processes that ensure eco-balance are regarded not as mere self-sustaining attributes of nature as may be argued in Gaia theory; they are commands of God, which nature, a good Muslim, only obeys.

<sup>95</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 126.

<sup>96</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 8.

<sup>97</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 9.

<sup>98</sup> Nasr, 'Islam, The Contemporary Islamic World, and the Environmental Crisis', p. 95.

<sup>99</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 126.

<sup>100</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 12.

<sup>101</sup> Nasr, 'Islam, The Contemporary Islamic World, and the Environmental Crisis', p. 96.

<sup>102</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 132.

<sup>103</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective' p. 16

Moreover, as part of its natural-law-abiding function nonhuman creation is presented by Qur'an as existing to nourish, support and sustain all life and human life in particular. However, there is a moral and religious system to control the centrality of human life and, hence human relations with nature.<sup>104</sup> This may be described as guided or regulated anthropocentric self-understanding of human-nonhuman relationships. Patrick Curry may term it 'light green or shallow' ecology in so much as it limits direct value (and *raison d'être* of nature) to human beings.<sup>105</sup> Haq thinks that, unlike Christianity, the Islamic view does not present any concept that humanity may understand rightly or wrongly "to 'subdue' the earth and seek to establish 'dominion' over the natural world."<sup>106</sup> For Qur'an 24:42 makes it clear that 'to only God belongs the dominion of the heavens and the earth.' Contrarily, in practice, as I point out in chapter five, Muslims also misapply the concept of *khalifacy* to subdue creation.

Another important ecological observation Qur'an points at in nature is the principle of measure and balance. Qur'an 54:49, which reads: 'Verily We have created all things in proportion and measure' is explained as depicting that in the cosmos only 'God is absolute and infinite, every creature is finite.'<sup>107</sup> By implication the resourcefulness of creation is not only limited, but, significantly, it is God who limits it. Qur'an 15:21 states it as 'And there is not a thing, but with Us are the stores thereof. And we send it not down except in a known measure.' Closely related to the concept of 'measured out' (*qadar, qadr, taqdir*) is that of 'cosmic balance' (*mīzān*), which is expressed to mean that 'God intends no injustice to any of His creatures...' (Qur'an 3: 108-9). To this end God gives each cosmic entity its *amr* (divine command) as a natural law, which guides its being and function in a healthy relation to the larger cosmic whole.<sup>108</sup> The suggestion here is that Islamic worldviews perceive inherent regulatory mechanisms in nature - divinely predetermined limitations and principles of balanced cosmic existence - which ensure ecological morality or eco-justice and cosmological or material self-conservation. I shall return to this point in chapter five.

### 4.3.3 Humanity in Islamic Worldview

Humanity occupies the third dimension of Islamic worldview. The Qur'an presents human beings as cosmic entities created 'out of baked clay' (Qur'an 23:13-14; 15:26) from and for the Earth, to be earthling.<sup>109</sup> The human image is the 'best of forms (*fi ahsānī taqwīm*)' and so humans are considered the noblest of creatures (*ashraf al-makhlūqat*).<sup>110</sup> Humans are both servants of God (*'abd-Allah*) and vicegerents of God (*khalīfat Allah*).<sup>111</sup> In this capacity they are theomorphic, treated as if possessing some God-qualities. For they alone among all creation, accepted a divine call to carry the moral burden of being custodians of the Earth.<sup>112</sup> They reflect the way God 'dominates' over his creation and cares for it as servants in submission to God's control.<sup>113</sup> In short, as vicegerents, humanity, theoretically, can be stewards of creation on condition that they submit to only directions of God in taking ecological actions. For, they, and not any other creatures, are accountable to God for their

<sup>104</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 126.

<sup>105</sup> Curry, *Ecological Ethics*, p. 61.

<sup>106</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 133.

<sup>107</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective' p. 12.

<sup>108</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 132.

<sup>109</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 126.

<sup>110</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 133.

<sup>111</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis', p. 97.

<sup>112</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 133.

<sup>113</sup> Nasr, 'Islam, The Contemporary Islamic World, and the Environmental Crisis', p. 97.

acts.<sup>114</sup> In this respect the Qur'an humbles humanity by declaring nonhuman creation greater than them (Qur'an 40:57), although many do not know.<sup>115</sup> Inferably, in Islamic worldviews humans are to relate to and with the nonhuman creation as managers or stewards, and this relationship is expected to be theocentric, very antithetical to ecocentrism. In Christianity as an Abrahamic tradition like Islam, such a theocentric ecology implies that ultimate authority remains with God the Creator; human ecological actions need to be a matter of 'because of God' or 'to the glory of God,' being the believer's 'commitment to the love of God and neighbour.'<sup>116</sup> Patrick Curry notes, 'humanity can use the natural world but only with due regard for the fact that God created it and gave us responsibility for its well-being.'<sup>117</sup> The stewardship or managerial ideology is religiously laudable, but Curry, rightly, doubts its practical reality, given the historical record of not successfully managing ourselves.<sup>118</sup>

To conclude, it is not difficult to deduce that the relationship that the Qur'an enjoins between humans and nonhumans is for a Muslim to 'love creation for the sake of its Creator' as Ibrahim Özdemir puts it.<sup>119</sup> This is a similar understanding in Christian worldviews.

#### 4.4 Creation, Creator and Humanity in Christian Worldviews

Like Islam, Christian theology of creation and the articulation of a Christian environmental ethics in contemporary terms are quite new. It is a new dimension of theology with a cause.<sup>120</sup> In other words, it is partly in response to, or at least prompted by, agitations against the reigning evolutionism ideology prior to the 1960s in the West, which held a 'worldview in which God does not exist and does not participate in the events of the world.'<sup>121</sup> But more significantly it responded to criticisms from environmentalists that the Judeo-Christian heritage, with its traditional teachings of human dominion over creation, bore a serious degree of responsibility for the ecological crisis.<sup>122</sup>

David Hallman, an ecumenical Christian writer, believes that Christian theologising began in the 1960s and in the early 1970s a growing number of theologians and ethicists in some denominations and theological institutions began to reflect on creation and the place of humans within it. But in Africa, though this was also the period of the genesis of African Christian theology,<sup>123</sup> yet the ecological dimension did not feature significantly in the works of the early African theologians.<sup>124</sup> All the same, the less evidence of emphasis on ecology in African Christian thought at the time was not a 'refusal' to engage the natural world in its

<sup>114</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 133.

<sup>115</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 133.

<sup>116</sup> Ebenezer Yaw Blasu, "'Compensated Reduction"', p. 22.

<sup>117</sup> Curry, *Ecological Ethics*, p. 34.

<sup>118</sup> Curry, *Ecological Ethics*, p. 35.

<sup>119</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 29.

<sup>120</sup> Solomon Victus, *Eco-Theology and the Scriptures: Revisit of Christian Responses*, (New Delhi: Christian World Imprints, 2014), p. 46.

<sup>121</sup> Hans Schwarz, *Creation*, (Cambridge: William B. Eerdmans Publishing Company, 2002), p.165.

<sup>122</sup> David G. Hallman, "Environment/ Ecology" in Nochoas Lossky, Jose Miguez Bonino, John Pobee and others, (Eds.) *Dictionary of the Ecumenical Movement*, (Geneva: WCC Publications, 2002), p. 397. See also Victus, *Eco-Theology and the Scriptures*, p. 46.

<sup>123</sup> J. O. Y. Mante, *Africa: Theological and Philosophical Roots of Our Ecological Crisis*, (Accra: SonLife Press, 2004), p. 5 suggests in a footnote that Gwinyai Muzorewa, *The Origins and development of African Theology*, (New York: Orbis books, 1985), p. 3 cited P. D Fueter 'Theological education in Africa', *International Review of Missions* No. 27, 1956, as the first to use the term African Theology.

<sup>124</sup> Mante, *Africa: Theological and Philosophical Roots of Our Ecological Crisis*, pp. 23-24.



theology' as Ben-Willie Golo,<sup>125</sup> following J. O. Y. Mante<sup>126</sup> seems to imply; rather it was because they were preoccupied with 'the problem of deculturation, which the western church has posed for the ordinary African Christian'<sup>127</sup> and which was the contextual necessity at the time for the first generation Christian scholars - the question of 'Identity as a Key to understanding the concerns [including ecology] of Christian Theology in modern Africa'.<sup>128</sup>

A second remark is that although the salvation message is the core message and mission of the Christian church, the (redeemable and/or) redeemed person lives, moves and has his/her being within a material space (the ecosystem).<sup>129</sup> Indeed, it is in and with the ecosystem that the salvific faith of the Christian encounters cultural dimensions of the divine-human relations. Then the Christian bible needs to be central in interpreting how the Christian culture engages with such relationships in the ecosystem.<sup>130</sup> However, wondering in his *Eco-Theology and the Scriptures* how far the bible can be treated as a book of science to deal with ecology, Solomon Victus observes, rightly, that despite lots of scientific principles noticeable in it, the bible is basically neither a scientific nor ecological book. Nevertheless, as long as the total message of the bible could meaningfully link with reality, it finds relevance in all cultures and all situations. Therefore, Christians still hold on to the bible as a good source book for modern ecological questions too, being 'the light of the world'.<sup>131</sup>

#### 4.4.1 The Creator of Our Home, Earth in Christian Understanding

Like Kwame Bediako, Hans Schwarz does not only affirm the scriptures for discerning the biblical view of creation, but also suggests close attention to the first two chapters of Genesis, since they focus on creation and may well set the tone for everything else said about creation in the bible.<sup>132</sup> The Genesis accounts - the Priestly or P (Gen. 1:1-2:4a) and Yahwist or J (2:4b-24) narratives<sup>133</sup> - link the existence of the world (Heaven and Earth) and all that is in it including human and nonhuman creatures to God. From the OT both Paul House<sup>134</sup> and Hans Schwarz explain that the Hebrew term *bara* and from the NT Schwarz adds the Greek *ktizo* (which mean to create), are theologically significant, because they are used exclusively for only divine activity, especially creativity.<sup>135</sup> To the Christian believer the idea of creation is an article of faith.<sup>136</sup> None of us existed when the world began. To say that God created is to presuppose His existence *primus*. This is unequivocally a declaration of faith based on God's revelation (Heb. 11:3), the credibility of which 'does not depend on natural science',<sup>137</sup>

<sup>125</sup> Ben-Willie Kwaku Golo, 'Redeemed from the Earth? Environmental Change and Salvation Theology in African Christianity', *Scriptura* 111 (2012:3), pp. 348-361 (356). Also retrievable from <http://scriptura.journal.ac.za>.

<sup>126</sup> Mante, *Africa: Theological and Philosophical Roots of Our Ecological Crisis*, pp. 23-24.

<sup>127</sup> Mante, *Africa: Theological and Philosophical Roots of Our Ecological Crisis*, pp. 23-24.

<sup>128</sup> Kwame Bediako, *Theology and Identity: The Impact of Culture Upon Christian Thought in the Second Century and in the Modern Africa*, (UK: Regnum Books, 1992, 1999), p.1.

<sup>129</sup> Golo, 'Redeemed from the Earth? ', pp. 348-361 (350).

<sup>130</sup> Bediako, 'Scripture as the Hermeneutic of Culture and Tradition', pp 2-11 (2).

<sup>131</sup> Victus, *Eco-Theology and the Scriptures*: p. 45.

<sup>132</sup> Schwarz, *Creation*, p.166. Paul House similarly observes that these two chapters are the most crucial passages in the Law concerning creation; the text does not include everything the Law, let alone the Bible has to say about creation, but it does provide the framework for all that follows. See Paul R. House, 'Creation in OT Theology', (n.d).

<sup>133</sup> Schwarz, *Creation*, p. 169.

<sup>134</sup> House, 'Creation in Old Testament Theology'.

<sup>135</sup> Schwarz, *Creation*, pp.166 and 168.

<sup>136</sup> Grace to You, 'The theology of Creation', (2012). <http://www.gty.org/connect/copyright>, 6 November, 2012.

<sup>137</sup> Grace to You, 'The theology of Creation', (2012).

although 'some things in it are open to scientific explanation'.<sup>138</sup> Based on Heb. 11:3 Victus contends that by faith we know God created the Earth *ex nihilo*,<sup>139</sup> as Schwarz also implies from Rom. 4:17 that there was no pre-existent matter (substance); everything is created (Eph. 3:9).<sup>140</sup> To be sure R. J. Williams defines creation as 'the bringing of the universe into existence by God. It is a calling into being that which did not exist before.'<sup>141</sup> Then, soon after the emergence of the primordial ecosphere God involved it to participate in his ongoing creative activity: the Earth, responding to God's call put forth vegetation (Gen. 1:11) and the waters and the air produced swarms of living creatures (Gen. 1:20).<sup>142</sup>

Victus suggests that this definition 'is the Hebrew Biblical understanding' and is 'quite contrary to the evolution concept.'<sup>143</sup> This is because modern scientific evolution philosophy and theories arrange a systematic and chronological out-birthing of the complex cosmos.<sup>144</sup> I reiterate that while this may be convincing to many, yet it is not only limited to the 'observable universe', but significantly unable to explain the source of the already existing 'single point' mixture of visible 'luminous matter' and the invisible 'dark matter' that 'was

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<sup>138</sup> Claus Westermann, *Genesis*, (London: T & T Clark International, 1987): p 13

<sup>139</sup> Victus, *Eco-Theology and the Scriptures*, p. 49.

<sup>140</sup> Schwarz, *Creation*, p.168.

<sup>141</sup> R. J. Williams, *Renewal Theology: God, the World and Redemption* (Grand Rapids: Zondervan Publishing House, 1996), p. 98. See Golo, 'Redeemed from the Earth?' pp. 348-361 (356).

<sup>142</sup> Schwarz, *Creation*, p. 170.

<sup>143</sup> Victus, *Eco-Theology and the Scriptures*: p. 49. Victus does not indicate what the contradiction between Biblical and evolution concepts of the world is. But it is noteworthy that one effect of Enlightenment and the subsequent scientific revolution on Christian higher education, particularly in the West, is divided Christian cosmologies related to debates that have raged around evolution and creation. The scientific account asserts (unfolds by) and obeys laws of nature that account for the movement of planets as well as physical phenomena on Earth (Denis Edwards, *The God of Evolution - A Trinitarian Theology*, New York: Paulist Press, 1999, p. 4). Thus contrary to what some Christians uphold as biblical, especially OT cosmology, scientists claim that the Earth, along with the rest of our solar system, emerged (not necessarily created) about four and a half billion years ago (Edwards, *The God of Evolution*, p. 4). Concerning life on the Earth, scientists use evidence from a number of disciplines to explain its evolution. They begin with discovery of bacterial life and microbial communities in rock formations on Earth as the first ecosystems more than three billion years ago, and conclude that the whole pattern of life on Earth has evolved from these early communities of simple cells (Edwards, *The God of Evolution* p. 4). The theories of adaptation, natural selection and genetic inheritance by Jean Baptiste de Lamarck (1744-1829), Charles Darwin (1809-1882) and Gregor Mendel, respectively, in the nineteenth century further consolidated the evolutionary cosmology; and the discovery of the structure and function of deoxyribonucleic acid (DNA) by James Watson and Francis Crick in the twentieth century enabled studying evolution at molecular level (Edwards, *The God of Evolution*, pp. 4-6). Moreover, Hans Schwarz observes that while Reformers such as Martin Luther (1483-1546) and John Calvin (1509-64) emphasised the sovereignty of God, they did so to declare God not as creator but rather as the Lord of history (Hans Schwarz, *Creation*, p. 4). He concludes that science could then continue its course relatively unhampered by the salvational concerns of theology (Schwarz, *Creation*, p.4). As a result, now not only is it a taboo to mention the possibility of creation in most institutions of higher education in the West, but 'arguments over evolution and creationism have divided Christians for many years' (Bookless, *Planetwise*, p. 19). Yet at the same time, as Schwarz observes, it is also 'now that scientific knowledge has led us not only to new heights but also to existential threats to life' (Schwarz, *Creation*, p. 20). Although I am aware of both the evolution-creation debate and its consequences, particularly the tendency of western Christianity to expunge creationism in academia, I have argued in chapter three of this thesis the need to develop ecological theology that synthesises the positives in both ideologies, so as to plausibly regain Christian faith in creation. This responds to the suggestions of both Denis Edwards and David Bookless. Edwards suggests that it is not the role of theology to enter into debates about the intricacies of evolutionary theory, but into a critical dialogue with the broad picture offered by contemporary biology (Edwards, *The God of Evolution*, p. 7). David Bookless puts it as avoiding the 'how' and concentrate on the 'why' of the genesis of the Earth (Bookless, *Planetwise*, p. 20). My position, however, is that both the why and how need be engaged if we must hold fast and even deepen our faith in the face of scientific evidence (Ebenezer Yaw Blasuw, 'Our Earth, Our Responsibility,' *Evangelical Review of Theology*, No. 41, Vol. 3, July 2017, pp 254-268 (256).

<sup>144</sup> Swimme and Tucker, *Journey of the Universe*, p. 2.

trillions of degrees hot and that instantly rushed apart' to become 'all of space and time and mass and energy.'<sup>145</sup> I have also argued already that to the Abrahamic religions the source of even that single point of matter that may have evolved into the cosmos in scientific assertions is still God.<sup>146</sup> In Deutero-Isaiah (e.g. Is. 40:25-26) and the Wisdom books such as Job 38 and 39, God did not mince words but categorically declared his authorship of and sovereignty over the Earth and the heavens and all that there is in them, including darkness and light. In particular, Job 38 and 39 demonstrate that non-human creation can exist and thrive without the intervention of human beings. In Christian worldviews Creation and created beings exist and are there because of God's power and sustaining hand.

There are, however, indications also in both the OT (e.g. Is. 65:17-25) and NT (e.g. Rom. 8:21-25) that creation in the beginning has to be connected with the new creation in the end, since creation in its present state does not correspond to the glory of God.<sup>147</sup> Thus Schwarz suggests we understand creation not only in its historical context as if a singular fact which occurred in the beginning; it contains a dynamic element.<sup>148</sup> In a study on 'The World in the Bible', Christopher J. H. Wright argues that the English expression 'the world' as used in the bible rarely translates one Hebrew or Greek word. It may translate 'heaven and earth', *erets*, *adamah*, *ge*, *cosmos*, *ktisis*, and *aiōn*.<sup>149</sup> It is noteworthy that the English word in the Letter to the Hebrews 11:3 is 'worlds', translating the Greek *aiōn*. This means 'universe or ages'. Suggestively, God's acts of creating spaces have been occurring over long periods of time, in different epochs as Kwame Bediako avers.<sup>150</sup> For Bediako, while the English usage of *aiōn* implies that creation is related to the 'world' as a one-time act of one spatial arena, the meaning of this verse from the Greek sense is that it is God who has been creating and is still creating. It refers to a long period of time without reference to beginning or end; and suggests spaces other than the earthly space alone that we tend to imagine when reading the bible.<sup>151</sup> Moreover, the dynamic element in the process of creation continues as and in the salvation act of God into the new world. In Deutero-Isaiah (Isaiah 40-55), which offers abundant statements about the Creator God,<sup>152</sup> the verb *bara* is associated with salvation also, suggesting that implicit in the doctrine of creation is the doctrine of salvation.<sup>153</sup> In short, creation is good because of a good creator,<sup>154</sup> but the good creation is temporal and will inevitably decay, requiring salvation into eternal entity as in the mind and will of the creator. Golo believes that salvation of our corrupt and fallen universe is built into the fabric of

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<sup>145</sup> Swimme and Evelyn Tucker, *Journey of the Universe*, p. 5.

<sup>146</sup> Bookless, *Planetwise*, p. 20, points out that the difference between Biblical cosmology and those of others is that only God creates out of nothing, while other accounts either have an already existing material from which the world is shaped or the world just emanated from a creator.

<sup>147</sup> Schwarz, *Creation*, p.168.

<sup>148</sup> Schwarz, *Creation*, p. 169.

<sup>149</sup> Chris J. H. Wright, 'The World in the Bible,' *Evangelical Review of Theology*, Vol. 34, No. 3, (July 2010), p. 208.

<sup>150</sup> Kwame Bediako, 'Christian Faith and African culture - An Exposition of the Epistle to the Hebrews,' *Journal of African Christian thought*, Vol. 13, No. 1, June 2010, p. 47. Kwame Bediako argues that the Twi translation for *aiōn* (*mresantee*) as in Hebrews 1: 2 is closer to the Greek meaning than the English word, 'worlds'. This verse specifically refers to the role of Jesus as Creator but the meaning both in Twi and Greek specifically refers to the ongoing act of creation through every age.

<sup>151</sup> Kwame Bediako, 'Christian Faith and African culture', p. 47.

<sup>152</sup> Renty Keitzar, 'Creation and Restoration: Three Bible reflections', in Hallman, David G., ed., *Ecotheology: Voices from the South and North*, (Eugene Oregon: WCC Publications, 1994).p.53.

<sup>153</sup> Schwarz, *Creation*, p. 167.

<sup>154</sup> House, 'Creation in Old Testament Theology'.

creation as a process of re-creation or renewal to culminate in the new world just as happens to a Christian believer (2 Cor. 5:17).<sup>155</sup>

#### 4.4.2 What Creation and Its Purposes are in Christian Understanding

J. H. Wright suggests that for purposes of effective mission (including keeping integrity of creation) we need to be certain about what we mean by 'the whole world' or 'cosmos',<sup>156</sup> and hence, 'all creation'. An understanding of what we mean by all creation will inform what action and where we act ecologically to be effective earthkeepers. When the OT uses the expression 'Heavens and Earth' Wright understands it as the whole created universe (the cosmosphere) - 'all that exists which is not God.'<sup>157</sup> Or in the NT 'cosmos' is 'the world or universe considered as an ordered whole, or ordered in opposition to God.'<sup>158</sup> In reading the bible we often perceive cosmos structurally consisting of two distinct places, heavens and Earth, with 'the heavens', perhaps consisting of three hierarchical levels, the highest being the abode of God (Deut. 10:14). Michael Dowd illustrates this view and labels it as 'pre-evolutionary (old) cosmology' which is a picture that shows heaven as located structurally far above the Earth, where God is transcendentally.<sup>159</sup> Humans live *on* the Earth, but relating with God and fellow humanity, and only regard the Earth as the stage upon which this drama played out.<sup>160</sup> The result, particularly in the West, is that out of this reality function anthropocentric valuing and morality, as well as otherworldly behaviours toward an invisible God and toward one another. What happens to the Earth and nonhuman creation is of no moral concern.<sup>161</sup>

For this thesis I investigated the Sokpoe-Eve Christians' understanding of *xexeme* as possible translation of the ecological terms 'environment', 'world', or 'creation'. Their biblical worldview seem to follow Dowd's 'pre-evolutionary' cosmology description, though with a slight difference. Like Dowd's description, the Sokpoe-Eve Christian pictures *xexeme* as comprising two existential places *dzifo kple anyigba* (the heavens *and* the Earth). Unlike Dowd's pre-modern science illustration, however, these two places in the mind of the Sokpoe-Eve Christian are contiguous through atmosphere and open into each other to form a united whole containing every created thing and separated by only time. There is *dzifoxexeme* (the heavenly world), which exists and is experiential to humanity only at death though it opens into *anyigbaxexeme* (the Earthly world) in which we now live and have experiences. Human activities have ecological implications in both, although *xexeme* in daily experience is limited simply to *anyigba kple edzinuwo*, ('gecosphere' or the Earth and things in it - human and nonhuman, physical and spiritual).<sup>162</sup>

It is noteworthy also that C. H. Wright makes dualistic deductions after his study of biblical concepts of the world or the cosmos. He notes that the cosmos as creation gives the sense of both the physical creation where we live and the place of rebellion and opposition to

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<sup>155</sup> Golo, 'Redeemed from the Earth?', pp. 348-361 (355 and 357). This sense of renewal is also reflected in the Greek term from 'new' – kainos' used in revelation 21 and in other places, rather than 'new' as in 'neos' – new – as in completely new.

<sup>155</sup> Bediako, 'Scripture as the Hermeneutic of Culture and Tradition', pp 2-11 (2).

<sup>156</sup> Wright, 'The World in the Bible', p. 208.

<sup>157</sup> Wright, 'The World in the Bible', p. 208.

<sup>158</sup> Wright, 'The World in the Bible', p. 208.

<sup>159</sup> Michael Dowd, *Thank God for Evolution*, (San Francisco: Council Oak Books, 2007), p. 227.

<sup>160</sup> Dowd, *Thank God for Evolution*, p. 227.

<sup>161</sup> Dowd, *Thank God for Evolution*, p. 227.

<sup>162</sup> See *xexeme* (3) in glossary, p. xviii.

God - resulting in sin, suffering, poverty, pain and judgement.<sup>163</sup> Similarly the Sokpoe-Eve Christian not only sees *gecosphere* as the physical arena for ecological action, but also as both the depiction of ecological valuing and moral conduct. People who do not organise life around biblical and Christian ethical doctrines are called *xexemetowo* or *egodotowo* (those outside Christian world).<sup>164</sup> What it means is that humanity corrupts the one and only *xexeme* (creation) that God created good and for good purposes.

God's purpose for creation is not easily apprehended by humanity, yet creation in diverse ways glorifies God and is indicative of his divine attributes. Hans Schwarz thinks creation was neither a necessity nor an accident with God. God wanted and did create<sup>165</sup> for his own purposes, something impossible for humans to rationalise in minute details.<sup>166</sup> Solomon Victus ponders, for instance, 'why does God pour rain on the desert where no humans live (Job 38:25-27)?' He further muses how in Job chapters 38 and 39 God engages Job on the ecology of the world from which Job must have learnt that 'the creative breath of God is inspired by beauty, joy, freedom and identity in nature' portraying God's wonders and glory in creation.<sup>167</sup> Bryant Myers, a development theologian, discussing the implications of creation account in development construes what Genesis chapter two says of 'trees pleasing to the eye' to mean aesthetics is part of created order; and that 'beauty of creation is itself a witness to God and reveals God's glory (Ps. 19:1-4).'<sup>168</sup> God's love, faithfulness, righteousness and justice are compared with those of natural elements (Psalm 36:5-6).<sup>169</sup>

The explanations of Hans Schwarz on the P-narrative of Genesis 1 of the OT<sup>170</sup> and Renty Keitzar on the Prologue to John's gospel (1:1-3) of the NT<sup>171</sup> suggest that biblical creation references may be theological apologetics aimed at pointing God's glory to humanity in the face of other cosmologies. The OT texts are assertions against Babylonian myths of origin and the NT one is against Greek Gnosticism that matter is essentially evil, spirit is essentially good; hence, the good God cannot be creator of an evil world. In both cases the intention is to let all the Earth fear the Lord; let all the inhabitants of the world stand in awe of him (Ps. 33:8f).<sup>172</sup> Similarly, in the Yawistic account of creation the Earth is symbolised as *'oikos*, an ecosystem in which the different biota and abiota co-exist symbiotically, fulfilling God's plan and purpose for which they are created.<sup>173</sup> The Good News Bible rendition of Ps. 19:1-4 suggests creation's revelation of God's glory is not just a passive implication, but also an active declaration or announcement albeit in a language not intelligibly perceptible to our human ears: 'No speech or words are used, no sound is heard; yet their message goes out to all the world and it is heard to the ends of the earth.' In the New Testament, Paul succinctly avers the singular truth is that creation plainly reveals God's invisible attributes, namely, his eternal power and divine nature, in the things that have been made (Rom. 1:18-20). In short, creation manifests the incontestable and non-comparative awful greatness, might and wisdom of God (Is. 40: 25-26).

We can even learn wisdom from creation: tiny creatures like ants, for instance, are biblically commended to be such teachers of social organisational skills and food security planning (Prov. 6:6) in the ecosystem. Birds in the air and lilies of the field may remind us, a

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<sup>163</sup> Wright, 'The World in the Bible', p. 209.

<sup>164</sup> Gladys Ahado, interview at Sokpoe, 26 June 2016.

<sup>165</sup> Schwarz, *Creation*, p. 173.

<sup>166</sup> Victus, *Eco-Theology and the Scriptures*, p. 65.

<sup>167</sup> Victus, *Eco-Theology and the Scriptures*, p. 65.

<sup>168</sup> Myers, *Walking with the Poor*, p. 62.

<sup>169</sup> Victus, *Eco-Theology and the Scriptures*, p. 66.

<sup>170</sup> Schwarz, *Creation*, p. 170.

<sup>171</sup> Keitzar, 'Creation and Restoration', p. 57.

<sup>172</sup> Schwarz, *Creation*, p. 170.

<sup>173</sup> Keitzar, 'Creation and Restoration', p. 56.

people of faith, not to be anxious but trust God for daily divine providence (Matt. 6:25-34). In the beginning of the seventeenth century CE, Francis Bacon, a scholastic Christian, challenged his scholars to shift focus from 'God's revelation' (the bible) to and learn from 'God's other book' (Nature). Implying this in his *The New Organon and Related Writings* Fulton A. Anderson explains that Bacon insisted on this shift because he believed nature is the better of the two books of God's revelation that provides more concrete and hardcore knowledge to enhance improving the estate of humanity.<sup>174</sup> Bryant Myers observes that the result of that shift is a stunning variety of human inventions and the emergence of modern science in the West: modern medicine, modern agriculture *et cetera*.<sup>175</sup> Although Bacon must have awakened Christians to particularly value nature as God's source of empirical knowledge, it is now well known that the extremes of the shift and the resultant development of science and technology has also been accompanied with philosophies and practices of dualism that eventually separated the spiritual from the physical and secularised Christian thought and praxis by the nineteenth century, particularly in the West.<sup>176</sup> The theological consequence is 'a powerfully held view of the nonhuman natural world as a set of inert raw resources to be mastered and exploited by human reason - in other words, ethically negligible.'<sup>177</sup> And in this denial of the divine ordering of creation to God and to all God's creatures, and not just to humans, we may identify the true root of our current environmental crisis.<sup>178</sup>

All the same God created the Earth, as both home - the *'oikos* - and means to nurture life. Bryant Myers says 'Creation is not a stage, but a living home' which 'supports... life and well-being with its air, water, trees, fruits, animals.'<sup>179</sup> As noted in chapter three in this work, the physicist and cosmologist, Freeman Dyson, reflecting on the origin of the universe, particularly the scientific discovery of its steady evolutionary expansion became convinced that 'the universe in some sense must have known that we are coming.'<sup>180</sup> In other words, Freeman Dyson affirms biblical cosmology anticipates life; the Creator God having a fore-plan of creating both human and nonhuman creatures, created the Earth to suit their life.<sup>181</sup> Schwarz argues from the 'Noachic blessing in Genesis 8:22' that God decided to create life other than himself, but this life requires an appropriate arena where there is temporality and order or rhythm of time for existence. For, 'not forever, not in eternity, but as long as the Earth exists will there be seedtime and harvest, cold and heat, summer and winter, day and night.'<sup>182</sup> The reason, in God's creative wisdom, is that life needs the cyclic changes of day and night for its supporting food to grow, and God decidedly granted and sanctioned it.<sup>183</sup> So God prepared an environment for life before creating even humanity<sup>184</sup> as the last creature of the biblical creation story.<sup>185</sup> Who or what are human beings in the story of creation?

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<sup>174</sup> Fulton H. Anderson, *The New Organon and Related Writings*, (NY: Macmillan, 1960), pp. 23, 78). See also Myers, *Walking with the Poor*: p. 25.

<sup>175</sup> Bryant Myers, *Walking with the Poor*: p. 25.

<sup>176</sup> Holmes, *Building the Christian Academy*, p.102.

<sup>177</sup> Patrick Curry, *Ecological Ethics*, p. 37.

<sup>178</sup> Michael Northcott, 'Christians, Environment and Society', *Transformation*, Vol. 16, No. 3, (1999), pp.102-109 (106).

<sup>179</sup> Myers, *Walking with the Poor*, p. 86.

<sup>180</sup> Cited by Swimme and Tucker, *Journey of the Universe*, p. 11.

<sup>181</sup> Swimme and Tucker, *Journey of the Universe*, p. 11.

<sup>182</sup> Schwarz, *Creation*, p. 172.

<sup>183</sup> Schwarz, *Creation*, p. 172.

<sup>184</sup> Keitzar, 'Creation and Restoration', p. 55.

<sup>185</sup> Victus, *Eco-Theology and the Scriptures*, p. 52.

#### 4.4.3 Christian Worldviews of Humanity and Our Place in Creation

According to Hans Schwarz, the biblical P-narratives of creation put humanity the last group of the creatures or animals (beasts, birds and fishes) God created on the sixth day, and so is closely associated with animals, being of same earthly substance and sharing same food materials. However, while P informs that other animals came forth at God's command from the land, atmosphere (air) and waters, humans, according to J, were exclusively the work of God; he 'formed the man (sic) of the dust from the ground' (Gen. 2:7a). Schwarz adds that human (*adam*) is taken from the earth (*adamah*) and to the earth it shall return (Gen. 3:19). Anthropologically, 'there is nothing divine in humanity, since it is closely associated with matter.'<sup>186</sup> But then God 'breathed into the human's nostrils the breath of life, and the human became a living being (*nephesh haya*)' (Gen. 2:7b).<sup>187</sup> An aspect of the very being of God, his life-breath or spirit, is now in human nature; it is by which human beings live, and if taken away humanity returns to soil again.<sup>188</sup> So biblically '[w]e receive our human existence by participating in God's life-giving spirit.'<sup>189</sup>

What this means theologically is that humanity occupies a special niche and so fulfills a unique purpose in God's created order. For, since God took much pain in creating the universe and especially humans (Ps. 8:4),<sup>190</sup> but into only humans it appears God breathed his own life-spirit directly, humanity assumes a unity of both '*something* divine' and material, described as 'created in the image of God [*imago Dei*] and after his likeness (Gen. 1:26ff) or as the Psalmist says in 8:5 "a little lower than God"'.<sup>191</sup> Humanity seems then theomorphic and treated as if possessing some God-qualities (Ps. 82:6; Jn. 10:34-36a). In this capacity humans enter a functional relationship with God, being His 'vice-gerents on earth'<sup>192</sup> with extended authority to be responsible stewards for the Earth (Gen. 2:15).

In addition, creation of humanity demonstrates God's nature and idea of community in the ecosystem. The Hebrew word denoting human being, *adam*, is a collective word, actually meaning humankind. Hence the narrative adds a qualification that God created 'them, male and female' (Gen.1:27). And the creation of the woman not only concluded the creative process of humanity, but established the 'personal community of humans in the broadest sense,'<sup>193</sup> evidenced in marital companionship, spiritual fellowship and social relations, sustainable by the attribute of love. Schwarz observes that not only did Adam recognise and declare Eve as bone of his bone, but even the bond with parental home would not be able to stop man from clinging to his wife for as long as they lived (Gen. 2:23-24). Thus in OT thought humanity (and a human being) is perceived as a unity even if the narratives distinguish between body and soul.<sup>194</sup> For the creator of all humanity is at the same time the creator of each individual human being (Isa. 17:7; Ps. 10:8-9), even through procreative process of injecting semen (milk) into female organism to fertilise (curdle like cheese) into a solid embryonic body (flesh) as Job teaches us (Job 10:8-12).<sup>195</sup>

How do these religious worldviews influence their respective religious ecologies?

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<sup>186</sup> Schwarz, *Creation*, p. 176.

<sup>187</sup> Keitzar, 'Creation and Restoration', p. 55. It is noteworthy that Animals are also *nephesh haya* – living creatures – Gen. 1:24. It is the same term that is used in 2:7b

<sup>188</sup> Keitzar, 'Creation and Restoration', p. 55.

<sup>189</sup> Schwarz, *Creation*, p. 177.

<sup>190</sup> Victor, *Eco-Theology and the Scriptures*, p. 52.

<sup>191</sup> Keitzar, 'Creation and Restoration', p. 55.

<sup>192</sup> Th. C. Vriezen, *An Outline of Old Testament Theology*, (Oxford: Basil Blackwell, 1958), p. 208.

<sup>193</sup> Schwarz, *Creation*, p. 179.

<sup>194</sup> Schwarz, *Creation*, p. 176.

<sup>195</sup> Schwarz, *Creation*, p. 177.

## CHAPTER 5

### PRAXIS OF CREATION CARE IN RELIGIOUS TRADITIONS OF AFRICA

#### 5.1 Ecological Ethics and Values

For the practice of creation care to be meaningful it may have to go beyond academic knowledge and impact our personal lives, our lifestyles, and how we personally affect the environment. This requires ecological ethics - the right and wrong or moral relationships between humans and the world around us<sup>1</sup> - that can engender commitment to concrete or practical ecological actions.<sup>2</sup> This is because the ecological community forms the ethical community,<sup>3</sup> implying that in the ecological community humans need to know how they *ought* to live and act, or relate with nonhumans also as subjects in one or the other way, to sustain the existence of the entire eco-community of both humans and nonhumans.<sup>4</sup> Environmental law is the means by which human hands may be restrained from diminishing the capacity of the Earth to support life.<sup>5</sup> But fundamental to eco-ethics and laws is the need for eco-values.

Ecological values are 'the ultimate worth of actions or things',<sup>6</sup> which underpin eco-ethical behaviours. They may be either individualist or holist, on one hand, and on the other, either intrinsic or instrumental.<sup>7</sup> Defending ecocentric against anthropocentric valuing of nature, Patrick Curry states that 'nature – which certainly includes humanity – is the *ultimate* source of all value.'<sup>8</sup> He implies that nature's value is not only intrinsic but a self-endowed quality through evolution. Contrarily, in Africa, both the Primal and Abrahamic (Islam and Judeo-Christian) religious traditions affirm from their worldviews that creation is God's handiwork. Creation thus has both intrinsic and instrumental values<sup>9</sup> conferred by God, not by itself or humans. In primal religion for instance, God is *Nunyuiwola* (creator of the good or value);<sup>10</sup> for Christians 'the heavens declare the glory [shining goodness] of God' and in Islam, Allah gave to each (created) thing its form and nature (*sura* 20:50).<sup>11</sup> Suggestively, there are common ideas in both the primal and Christian worldviews that correspond with the Islamic understanding that 'every individual creature or being has its own ontological existence as a sign (*aya*) of God and, by its very being, manifests and reveals His majestic and merciful values.'<sup>12</sup> The religious eco-ethical point implied here is that the All-Valuable and Good Creator is the only authoritative source and imputer of value and goodness to his creation, both human and non-human. It is not possible for any creature, as long as it is recognised as creation, to have value and moral status (goodness or otherwise) without reference to God's valuing of it.

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<sup>1</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 37.

<sup>2</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 13.

<sup>3</sup> Richard Sylvan and David Bennett, *The Greening of Ethics: From Human Chauvinism to Deep-Green Theory* (Cambridge: White Horse Press, 1994), p. 91, cited in Patrick Curry, p. 3.

<sup>4</sup> Curry, *Ecological Ethics*, p. 3.

<sup>5</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 185.

<sup>6</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 37.

<sup>7</sup> Curry, *Ecological Ethics*, p. 52. Italics emphasis is in the original text.

<sup>8</sup> Curry, *Ecological Ethics*, p. 2. [italics my emphasis].

<sup>9</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 189.

<sup>10</sup> Samuel Agboklu, interview at Sokpoe, 2 March 2016.

<sup>11</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 11.

<sup>12</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 11.



Ecological values function by being transposed into ethical codes or norms (specific rules and regulations such as taboos) and ritual procedures, which are supposed to guide conduct on specific situations. For, ethics, as Patrick Curry explains, concerns the realisation of values, both in the sense of 'realizing what they are and of making them real.' Thus it refers to the moral principles and defined ways of how people *ought* to live and act in their relationships with one another in an ecological community or ecosystem.<sup>13</sup> In this chapter I examine the specific eco-ethical principles that stimulate or give impulsion for ecological actions and instances of such actions in caring for creation based on the major religious worldviews in Ghana.

## 5.2 The Impulsion For and Eco-Care Praxis in Primal Religion

I draw four related inferences from the analytic review of the structure of the African primal worldviews in chapter four that may motivate creation care: anthropocentric worldviews, fear of eco-deities, eco-character development and ritualistic priming for eco-relations.

### 5.2.1 Anthropocentrism and Fear of Deity as Primal Religious Impulsions for eco-praxis

From my research among the Sokpoe-Eve I observed that their worldview is conceptually biocentric, but practically anthropocentric. This corroborates observations that the worldviews of Africans are anthropocentric.<sup>14</sup> Thus the consciousness of and motivation for eco-care is generally more skewed to human benefitting than nonhuman creatures' wellness, if even the latter are thought of at all. This is the first inference from the structural analysis of the African worldviews earlier in chapter four. We have seen that in African worldviews there are also nonhuman creations, especially ubiquitous malevolent and benevolent spiritual entities more powerful than humans. Yet they tend to direct ecological actions to the wellness of only human life, whether living or dead, existing spatially in either the physical or spiritual worlds. Human life is '*sommum bonum*' (the greatest good); and communal interest overrides individual interest.<sup>15</sup> Harvey Sindima succinctly underscores this conception of biocentrism but praxis of anthropocentrism in the African primal religious cosmology and ecology. He writes:

The African understanding of the world is life-centred. For the African, life is the primary category for self-understanding and provides the basic framework for any interpretation of the world, persons, nature, or divinity.<sup>16</sup>

Sindima thus suggests biocentrism for African primal worldviews which underscores our interpretation of creation, and hence, ecological phenomena. But in the end it is specifically the life of humans that matters, rendering ecological relations and actions anthropocentric. For as is suggestive in his submission the need for humans to relate with other life forms harmoniously or ethically on Earth is because humans can then experience fullness or meaning to their own life. As he puts it: 'In the human sphere the process of life achieves fullness when humans are richly connected to other people, to other creatures, and to the Earth itself. Humans realize their own fullness by realizing

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<sup>13</sup> Curry, *Ecological Ethics*, p. 28.

<sup>14</sup> Kalu, 'Precarious Vision', p. 41.

<sup>15</sup> Agbanu, 'Environmental Ethics in Mafi-Eve Indigenous Culture', pp. 96-118.

<sup>16</sup> Sindima, 'Community of Life', pp. 137-147.

the bondedness of life.<sup>17</sup> The need for human fullness then underpins African eco-ethical praxis.

The second observation and inferred impulsion for eco-praxis is the fear of deities and ancestral spirits rather than the Supreme Being, even in cultures where the worldview has the God component. This I refer to as a theistic but not theocentric worldview and eco-ethics, subsequently. I mean that generally the Supreme Being is not necessarily the reason for ecological relations, actions or inactions in many African cultures. For instance, in the case of ancestor-dominated worldview of the Akan, the Supreme Being, though revered as Creator of the ecosphere, is not bothered with daily life ecological challenges in any practical sense.<sup>18</sup> Similarly, among the Sokpoe-Eve and the Mafi-Eve in the Volta Region of Ghana, *Mawu* (the Supreme Being) is creator, but, unlike the Akan, the dominant components in their worldviews are the *trɔ̃wo* (deities). Thus it is the *trɔ̃wo* that are ultimately encountered and feared for committing environmental crimes in daily life experiences. This second observation - the sense of fear and vulnerability to spiritual entities other than God in the precarious ecosystems - in my view is the key to the import of African worldviews in primal religious eco-praxis. For it is the main reason why our ancestors establish both elaborate religious procedures (e.g. rituals) to manipulate the spirit forces and ethical rules (e.g. taboos) for prohibiting and inhibiting human conduct in the holistic eco-community. In this respect, Asare Opoku rightly critiqued A. B. Ellis' as 'certainly wrong' in the latter's assessing that African divinities 'can view with equanimity' the most atrocious crimes committed in the eco-community.<sup>19</sup>

In primal Africa, the principles undergirding ecological ethics and ethoi are derived from personal religious experiences of rudimentary agricultural practices and other close relations with and in the holistic ecosystem.<sup>20</sup> They are presented in their own genre, often, orally in cultural symbols such as folklores, proverbs, socio-religious taboos, as well as beliefs in totems, sacredness of life and ecosystemic places.<sup>21</sup> They are not necessarily written philosophical formulations in western terminologies like the deontological, consequential or utilitarian and virtue or teleological schools of ethics.<sup>22</sup> Nevertheless, as John Opoku contends, they constitute 'a cultural philosophy that authenticates the African standard of [the ethical] humanity, both in perspective and content.'<sup>23</sup> Some 'may be universally shared' or correspond with the western formulations in content since ethical codes may be 'widespread in human society'.<sup>24</sup> The aim of African primal religious eco-ethics is eco-virtuous character cultivation and practice towards harmonious relationships, and hence, abundant life in the ecosystem.<sup>25</sup>

### 5.2.2 Eco-Regulations and Development of Eco-Character as Life-long Eco-Praxis

The third inference extending from the second is that ultimately eco-culture and ethos are sustained among primal African ecological communities by developing and practising

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<sup>17</sup> Sindima, 'Community of Life', pp. 137-147.

<sup>18</sup> Bediako, *Jesus in Africa*, p. 25.

<sup>19</sup> Kofi Asare Opoku, *West African Traditional Religion*, (Accra: FEP International Private Ltd., 1978), p. 157.

<sup>20</sup> Agbanu, 'Environmental Ethics in Mafi-EveIndigenous Culture', p. 2.

<sup>21</sup> Agbanu, 'Environmental Ethics in Mafi-EveIndigenous Culture', p. 123.

<sup>22</sup> Curry, *Ecological Ethics*, pp. 39-51.

<sup>23</sup> John Kwaku Opoku, 'African Traditional Ethics: An Appraisal of its Impact on Human Development in the Kumasi Metropolis,' *Journal of Applied Thought (A Multidisciplinary Approach)*, Vol. 4, No. 2, May 2015, pp. 286-304 (286).

<sup>24</sup> Nwosu and Kalu, 'The Study of African Culture,' p. 3.

<sup>25</sup> Kalu, 'Precarious Vision', p. 44.

virtuous ecological relationships or eco-character as a life-long experience. Eco-character development itself results indirectly from enforcing religious ecological regulations and performing rituals that ensure restoration of ecological harmony and just relations. In other words, obeying environmental taboos and performing prescribed rituals to appease the ecological deities are actually a means of mitigating the vulnerability of human life and/or ensuring harmonious relationships in the ecosphere. However, the religious ecological regulations and rituals go beyond being mere ecological actions to impacting practitioners with internal dispositions that engender harmonious ecological relations in the eco-community.<sup>26</sup>

For instance, in both Sokpoe and Akan ecological areas in Ghana, performing the rites and rituals that either prevent or erase the effects of *busubɔbɔ/mmusu* (ecological crimes) seem to be a hard way of learning from experience to develop some ecological character traits. Kofi Asare Opoku describes *mmusu* among the Akan of Ghana as 'acts that bring disaster or cause misfortune.'<sup>27</sup> That *mmusu* is ecological sin is implied in the fact that its consequences go beyond the offender and threatens the entire eco-community; it concerns the state and the divinities, and dealing with *mmusu* always requires libation prayer and blood sacrifices.<sup>28</sup> Examples of *busu* among the Mafi-Eve, for instance, include flouting taboos regulating the use of land, water and other natural resources; or desecrating the land by having sexual intercourse in the bush or on bare ground, and disregarding sacredness of designated ecosystemic places and objects - all of which may result in drought unless the culprits offer expiatory sacrifices.<sup>29</sup> As it were, undergoing the expiatory ritual as sanction may be an ethical learning experience that impacts change in ecological attitude and relational behaviours: ecological repentance, respect for nature, the fear of flouting land deity's ecological taboos and self-discipline in sexual matters. Native Americans describe such responsive spiritual actions of the offenders as 'walk[ing] in the beauty way' or following 'the good red road'<sup>30</sup> implying turning eventually onto the right way or developing the right ecological attitude out of experience, by looking into oneself. In the process a moral order is necessarily established, because purity and obedience to ecological rules block the anger of the deities and ruin the intent of evil spirits; it is also required for the efficacy of ecological rituals. Carelessness and immorality may not only render the ritual useless, but also endanger the life of the celebrants.<sup>31</sup> Ogbu Kalu thinks that eco-character or moral ecological uprightness is required to maintain peace with deities and with creation for abundant ecosystemic life.<sup>32</sup> Thus when the environment poses a challenge, the community probes its inner experience and mental construct of the universe to address and reflect the specific nature of the challenge.<sup>33</sup> We see this also among Native Americans. To counter ecological threats in their holistically perceived ecosystems Native Americans 'look into ourselves', and ask 'Are we participating in creation in a harmonious way? Are we honouring our ancestors? Are we nourishing our Mother Earth as she has nourished us, so that she will continue to nourish future generations?'<sup>34</sup> The result of such self-assessing reflections, even though somewhat anthropocentric, may be associated with eco-ethical lessons.

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<sup>26</sup> Curry, *Ecological Ethics*, p. 49.

<sup>27</sup> Opoku, *West African Traditional Religion*, p. 157.

<sup>28</sup> Opoku, *West African Traditional Religion*, p. 157.

<sup>29</sup> Agbanu, 'Environmental Ethics in Mafi-Eve Indigenous Culture', p. 145. It is similar among the Sokpoe-Eve aslo as I found in this study.

<sup>30</sup> Gonzales and Nelson, 'Contemporary Native American Responses to Environmental Threat,' p. 497.

<sup>31</sup> Kalu, 'Precarious Vision', p. 43.

<sup>32</sup> Kalu, 'Precarious Vision' p. 42.

<sup>33</sup> Kalu, 'The Sacred Egg', p. 229.

<sup>34</sup> Gonzales and Nelson, 'Contemporary Native American Responses to Environmental Threat,' p. 497.

The pursuance of eco-character development, however, may not be a conscious or intentionally planned and implemented eco-practice. From western cultural understanding Patrick Curry calls eco-character as Green Virtue Ethic (GVE). In his opinion, a Green Virtue Ethic, as an eco-character trait, agreeably, is developed and practised in the course of a life long process of learning in communities (human and nonhuman), which 'haven't been entirely colonised by modernity.'<sup>35</sup> Apparently there are other rituals to initiate, fortify and prime a new human entrant into the eco-community for its life-long development of ecological character at the start of each phase of the life continuum - birth, growth and death.

### 5.2.3 Ecological Rituals as Grounding and Priming for Creation Care

Apart from performing rituals of expiation as sanctions meted out for ecological crimes there are others for priming the individuals ecologically by grounding and orienting them. Ecological grounding or orienting in religious traditions refers to the initiation, formally or informally, of a human being into and to identify with the ecological community. It is a means of making humans aware of being not only immersed in nature, but also humans are inexorably woven into profound relationships that constitute life on Earth and beyond. Ecological grounding gives the sense of self-embedding in an expansive cosmic community.<sup>36</sup> It opens the universe as an ever-present and all-embracing reality, and provides a sense of direction and purpose to situate humans in a larger cosmological reality, in the present and through the span of existence (life) into an unknown future.<sup>37</sup> Thus the cyclic timing of life in the African primal worldviews is a significant factor that directs the African's cultural practices denoting ecological *ethoi*. Each stage of the earthly sojourn of the cyclic life is celebrated with a *rite de passage* as an expression of the responsible relationship between the individual, the Creator and other beings in the geocosphere. In other words, primal people follow the natural laws of their creation stories and perform ceremonies to maintain balance between people, place and spirits.<sup>38</sup> The major rites in earthly life with ecological connotations of orienting and grounding include natal (birthing), empowering (responsibility initiation) and transition (funerary) rites.

Concerning birth, the creation myths and outdoorings rites reinforce the relationship between the child and the ecosystem. When the child is born the outdoorings rite seeks to ground it into the ecosystem. In southern Ghana, according to Robert Clobus, the newly born child is laid on the bare Earth<sup>39</sup> perhaps to signify that it is made essentially of clay and so

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<sup>35</sup> Curry, *Ecological Ethics*, p. 50.

<sup>36</sup> From Grim and Tucker, *Ecology and Religion* we learn that Confucianism illustrates this grounding by seeing the individual as embedded in or at the centre of a series of concentric, overlapping circles including both humans and nature. Human's responsibility is to cultivate (i.e. morally transform) the self by learning to be sincere and sustain the integrity of nature's ecosystems with careful management (p. 92). Confucian education thus leads one to recognising one's deeper identity with reality as forming one body with all things (p. 121). This mind of filial relatedness to others in the cosmos makes humans anthropocosmic rather than anthropocentric (p. 121), and so motivates care for the Earth community or biosphere (p. 115).

<sup>37</sup> Grim and Tucker, *Ecology and Religion*, p. 96.

<sup>38</sup> Gonzales and Nelson, 'Contemporary Native American Responses to Environmental Threats', p. 497.

<sup>39</sup> Robert Clobus, 'Ecofarming and land ownership in Ghana' in Calvin B. DeWitt and J. Mark Thomas, eds., *Missionary Earthkeeping*, (Macon, Georgia: Mercer University Press, 1992), p. 70. Though Clobus did not specify which Ghanaian cultural tribe implied in his statement yet the Ewe and Ada among whom he was working in the Afram Plains of Ghana at the time of writing may not be ruled out. The Ewe, like the Ga-Dangme of Ghana, in particular, outdoor babies putting them on the bare ground. The Akan, for instance, do not include such ritual in their ceremony.

‘expected to revere and cooperate with it.’<sup>40</sup> Christian ethicist, Joshua Kudadjie undertook a pastoral study among the Ada (Dangme) of Ghana to integrate traditional practices and values with Christian outdoorings and naming ceremony in the Methodist Church of Ghana. He notes that the traditional ceremony literally introduces the child formally to ‘the wider world of Earth [and] sky.’<sup>41</sup> The outdoorings rite may also symbolise formal integration of the child into the community of both the living and the living-dead, qualifying it as a potential inheritor of the family land. Clobus observes that most Ghanaian traditions see land as belonging to the family as a sanctuary and a trust of ancestors. This concept makes the living temporary possessors of a heritage that is destined to pass to generations yet unborn,<sup>42</sup> and theoretically could underscore land ethics, economy and preservation of some Ghanaian cultures. Kalu observes that among some Africans, eight days after birth the child’s umbilical cord is put in a calabash, sprinkled with herbs and, after pronouncements, buried into the soil under a tree at the back of the house. In this way the child is rooted to the land with which it shares an everlasting bond.<sup>43</sup>

Similar birthing rites are observable among the Ada (Dangme) and Sokpoe-Eve of southern Ghana. The Ada, for instance, lay the eight day-old baby on the bare ground and sprinkle cold water from roof eaves to cleanse it. Kudadjie could not elicit any explanation for the practice, but was worried of the child’s vulnerability to possible infection and, inadvertently, expunged it from his proposed Christian outdoorings liturgical order.<sup>44</sup> The Sokpoe-Eve, whose outdoorings rite resembles that of the Ada, provide explanations for this ritual, which bear significant ecological priming implications. For them the ‘baby-on-bare-ground’ reminds it of its earthiness and establishes filial relationships with the Earth. Rationally the ritual primes the baby to perceive and respect the Earth anthropomorphically as a nurturing mother.<sup>45</sup> Perhaps because in the African primal worldview the ecological community is holistic B. Y. Quarshie believes that the outdoorings ceremonies among the Ga in Ghana symbolise the merging of the spiritual and physical (or sacramental) phenomena of the ecosystem for the child. Laying emphasis on the reality and seriousness of curses in the African context he sees the rite as occasion not only to invoke material blessings to the baby, but also to teach, encourage and guide how to deal with malevolent forces that may overturn the blessings, by cursing them.<sup>46</sup>

The details of outdoorings rite then differ with cultures, but for Kalu the rite not only ‘provides an opportunity to declare who has returned to the family,’ it also ‘covenants the individual to the land and the [ecological] community.’<sup>47</sup> The African child expectedly can be ecologically responsible as it grows, having been potentiated ritually to develop eco-character with which to know and be committed to caring for the environment into which it has been oriented and grounded until it exits the human world at death.

However, death is only another passage into the other plane of the continuum of life, a journey in and through the spirit world until a return to human world, which for some eco-

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<sup>40</sup> Kofi Asare Opoku, ‘Cooking on Two Stones of the Hearth? African Spirituality and the Socio-Cultural Transformation of Africa,’ *Journal of African Christian Thought*, Vol. 13, No. 1, June 2010, pp. 3-9. (5).

<sup>41</sup> Joshua Kudadjie, ‘Researching morals and rituals’, *Journal of African Christian Thought*, Vol. 2, No. 2, (December 1999), pp. 35-43.

<sup>42</sup> Clobus, ‘Ecofarming and land ownership in Ghana’, p. 71. Clobus supported his argument with the Ashanti proverb that ‘The farm is mine but the soil belongs to the stool’ and the stool symbolizes the office of the chief or family head.

<sup>43</sup> Kalu, ‘The Sacred Egg,’ p. 233.

<sup>44</sup> Kudadjie, ‘Researching morals and rituals,’ pp. 35-43.

<sup>45</sup> This is part of my findings in this research. I shall return to it later with details in another chapter.

<sup>46</sup> B. Y. Quarshie, ‘Paul and the Primal Substructure of Christianity: Missiological Reflections on the Epistle to the Galatians,’ *Journal of African Christian Thought*, Vol. 12, No. 1, (June 2009), pp. 8-14 (12).

<sup>47</sup> Kalu, ‘The Sacred Egg,’ p. 232.

cultures, is through reincarnation.<sup>48</sup> As Opoku puts it ‘In effect, it is death and birth that are opposites, while life is constant; and birth can be regarded as the entry gate and death as the exit gate through which life passes, only to return again.’<sup>49</sup> Kalu claims that for cultures with ancestor-dominated worldviews reincarnation is ‘reserved for those who lived honest lives and did not die from inexplicable diseases or from lightening - a punishment from the gods for a secret offence.’<sup>50</sup> By implication, in such cultures, ancestors must have been individuals who developed and practised ecological virtues or character during earthly sojourn. However, for the Sokpoe-Eve, where the ancestral component is less emphasised in their worldview, reincarnation is the return not of only good people, but also as a second chance for some fortunate individuals to correct their previous incongruous ecosystemic life.

The unity of the visible and invisible worlds becomes clear in the funerary rites.<sup>51</sup> Generally the exited (deceased) person is interred *in* the Earth, the very Earth *of which* it was made, and *on* which it was laid at the entrance (birth) into life in the human world. Not every corpse is, however, buried; some that lived unethically in the ecosystem are cremated, as happens among the Mafi-Eve.<sup>52</sup> Furthermore, the attachment to the land and people of birth, and hence understanding that the dead continue to live but must live among its people, may underlie the practice of ensuring ‘the departed are buried on their own land, within the homestead’ or ecosystem. For the cultural insight that ‘the deceased remain present’ is ‘physically demonstrated by the form, pattern and location of burial.’<sup>53</sup>

These rituals then may signify the ecological importance of the Earth in the continuum of life. The Earth is recognised at the entrance, sojourn and exit of life: it supplies the physical substance (material) for the living body at birth, nurtures it all through earthly life and receives its earthy corpse back at death when the individual is ritually entrusted to it by interment or cremation. Expectedly, the primal natal and funerary rituals are all eventually about preparing or priming individuals to be pragmatically integrated harmoniously and without a blemished eco-character in the cosmic existence on the Earth and beyond it, respectively. Ecocare praxis in Islam too has its own religious motivations.

### 5.3 The Impulsion For and Praxis of Creation Care in Islam

At least three theoretical or reconstructed factors are identifiable from the Islamic worldviews as impulsion or motivators for Islamic participation in current global concerns about the environment. First, is the theocentric worldview, second, the concept of cosmic balance and, third, the theomorphic status of humanity as *khalifat* (vicegerent of God).

#### 5.3.1 Theocentric Worldview and *Taqwa* (reverence) for God: Impulsion for Eco-praxis

The first source of impulsion for a Muslim to be concerned about the environment and hence participate in creation care relationships and actions is the *taqwa* (reverence) of and

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<sup>48</sup> Kalu, ‘The Sacred Egg’, p. 234.

<sup>49</sup> Opoku, ‘Cooking on Two Stones of the Hearth?’, pp. 3-9 (5).

<sup>50</sup> Kalu, ‘The Sacred Egg’, p. 234.

<sup>51</sup> Kalu, ‘The Sacred Egg’, p. 233.

<sup>52</sup> Among the Mafi-Eve not every corpse is buried in the Earth. According to Harry K. Agbanu, ‘Environmental Ethics in Mafi-Eve Culture,’ p. 118, ‘a person believed to have taken human life through malevolent spirit means such as witchcraft and sorcery’ is subjected to *amememe* (disgraceful cremation) ritual. He explains that this ritual is regarded the severest punishment meted to human beings.

<sup>53</sup> Bediako, ‘Gospel and Culture: Some insights’, pp. 8-17 (8).

gratitude to the Creator for his creation, of which humanity is part. The Muslim's entire way of life is historically and inspirationally founded and maintained on one major belief - the belief in God. As John Azumah writes,

Belief in God (*Allah*) is the first and central belief in Islam. He is depicted as sovereign, king, ruler, and master who is utterly other than his creation. His transcendent status is encapsulated in the familiar Muslim expression, *Allahu akbar* (God is great).<sup>54</sup>

Theologically the import of 'belief in God' in Islamic worldview is the metaphysical affirmation of the Muslim that the cosmos belongs to God. God, according to the Qur'an is the real creator, owner, and sustainer of all reality (Qur'an 2:29). It suggests that all reality should be seen and read with the point of view in mind that nature originates from God and has an inherent purpose to impel creation's (both human and non-human's) submission to God. The strength of a Muslim's claim of Qur'anic cosmology lies in the Islamic understanding that 'both the author of Qur'an and creator of nature are the same, God.'<sup>55</sup> Thus what the Qur'an ultimately reveals and what nature is ordered to manifest – divine glory in these two Books of God - are the same and obliges Muslims to submit to God.<sup>56</sup> Implicit in this affirmation is that the Qur'an enjoins Muslims to 'love creation for the sake of its Creator'.<sup>57</sup> Commenting ecologically on Qur'an 49:13 (Most noble of you in the sight of God is he who is most reverent), Llewellyn thinks Muslims need to revere God in everything, because he is Lord and will try humanity concerning his creatures.<sup>58</sup>

*Taqwa* as impulsion for eco-praxis receives further strength from another affirmation that Islamic worldviews are 'comprehensive, integrated, and holistic,' and centre on 'the unity of reality (*tawhīd*).'<sup>59</sup> Özdemir explains that *tawhīd* in Qur'anic cosmology refers to the belief and affirmation that God is the very meaning of reality; a meaning manifested, and clarified, and brought home by the universe, developed further by humans. God is the dimension that makes other dimensions possible.<sup>60</sup> Known as the 'cosmological evidence of God's existence' in Islamic theological philosophy (*kalām*), *tawhīd* obliges humanity to morally respond by grateful submission<sup>61</sup> as well as being reverent (to God) and compassionate (to all creatures).<sup>62</sup>

A significant theoretical inference is that if and when Muslims understand the ecological import of *tawhīd* as a Qur'anic teaching, they most likely will submit by taking ecological actions that care for creation and sustain the unity of God. For, a fundamental ethical argument implied in religious ecology as motivator for moral environmental responsibility is the assumption or belief of Curry that 'people will "naturally" do the right thing(s) when they apprehend the natural world correctly,' identifying oneself with that world and its fellow inhabitants.<sup>63</sup> The practical challenge, however, is with the right interpretation of Qur'anic texts. The Qur'an, according to Haq, as the source of these teachings, is not a systematic treatise meant to convey ethical doctrines or principles. If this text is to yield a concrete system, it requires an imaginative reconstruction on the part of the reader.<sup>64</sup> Since

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<sup>54</sup> Azumah, *My Neighbours' Faith: Islam Explained for Christians*, p. 28.

<sup>55</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 9.

<sup>56</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', pp.7- 9

<sup>57</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 29.

<sup>58</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 189.

<sup>59</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 4.

<sup>60</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 9.

<sup>61</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 9.

<sup>62</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 189.

<sup>63</sup> Curry, *Ecological Ethic*, p. 106.

<sup>64</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 125.

huge numbers of Muslims, particularly in Africa, are not literate in Arabic, the official language of the Holy Script, imaginative reconstruction that stimulates ecological action in caring for creation may be a non-starter. Even if Arabic literacy is not a challenge, classical Islam recognises epistemological difficulties in the finality of the reconstruction, unless there is 'overwhelming community consensus.'<sup>65</sup> Notwithstanding these problems, the Qur'an remains a valuably rich and subtle stimulus to religious *imagination*,<sup>66</sup> perhaps particularly for only Muslims who see themselves as '*khalifas*.'<sup>67</sup>

### 5.3.2 The Concept of *Khalifa* (Theomorphic Vicegerent)

The second source of impulsion for Islamic earthkeeping is from their belief that God has made humans his *khalifas* (vicegerents, stewards) in the world.<sup>68</sup> As I have earlier indicated, in Islam the Qur'an shows that humanity occupies a special functional position in the cosmos, the *khalīfa* or vicegerent of God, by virtue of being theomorphic and a covenant or 'trust they have taken upon themselves in pre-eternity.'<sup>69</sup> In this position, human beings qualify to become stewards of God on Earth.

He it is Who made you stewards on the earth, and raised some of you by degrees above others, so that He might try you by means of what He has bestowed upon you. (Qur'an 6:165)

Thus we have made you to succeed one another's stewards on the earth, that We might behold how you acquit yourselves (Qur'an 10:14)<sup>70</sup>

Although the concept of *khalīfa* suggests a privilege and honour, yet it is more of a trust, a responsibility and a trial. Among all creatures, only humankind agreed to bear a trust or moral responsibility (Qur'an 33:72) for the Earth. According to Islamic theology it is a responsibility to 'be a shepherd over all the lives on Earth that he may touch for good or ill,' for which he shall be accountable to God on the day of resurrection<sup>71</sup> - the day 'when the earth throws out its burdens' (Qur'an 99:2). As Llewellyn explains a *khalīfa* acts not for himself/herself, but for his/her Lord and according to his/her Lord's purpose. He shall 'be asked about his flock' since all human beings 'shall be asked regarding every atom's weight of good that he or she has caused, and every atom's weight of harm' (Qur'an 99:7-8).<sup>72</sup>

As a concept, *khalīfacy* suggests also a trial of the integrity of humanity in managing the things Allah 'has bestowed upon you.' According to Llewellyn, in a rigorously authenticated *hadith* of Abu Sa'id al-Khudri, Prophet Muhammad explained that God has made humans his stewards in the world and 'He sees how you acquit [prove] yourselves.' All the same, it appears God had already foreknown humankind's inability to keep the trust since the Qur'an (33:72) indicates that humanity 'was unjust and foolish' and for which reason the

<sup>65</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 125.

<sup>66</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 125. [Italic in original].

<sup>67</sup> Mawil Izzi Dien, 'Islam and the Environment: Theory and Practice', in Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), p. 110.

<sup>68</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 191.

<sup>69</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 127.

<sup>70</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 190.

<sup>71</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 190.

<sup>72</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 190.



Prophet strongly admonished 'whatever we do, we will not leave this world unchanged. We must take heed, then, that we leave it for the better.'<sup>73</sup>

The implication, as it seems, is that the *khalīfa* position in Islamic thought is gracious and rewarding, but it is also a fearful one, likely to determine the eternal fate and abode of humanity. It is a wilful choice of humanity on whom it behoves to do as Allah requires in being faithful stewards of creation or else justly faces His wrath in the end for disobedience. A good understanding and affirmation of this religious concept could (or rather should) be a strong moral impulsion for keeping integrity of creation. Yet, in practice, contrary to the Islamic belief in *khalīfacy*, but true to the Qur'an's prediction (Qur'an 33:72) concerning humans' managing the Earth, Llewellyn observes that 'we have proven ourselves thoroughly unjust and foolish.'<sup>74</sup>

The observed failure of humanity, as Muslims see it, to be faithful *khalīfas* of the Earth may be because of misrepresentation of the concept by overemphasizing the privilege and honour implied in the term as a mandate to exploit nature.<sup>75</sup> This excuse, however, seems to beg the question about the practical reality and stands out more as intellectual defence by Islamic writers regarding Islam's valuing of human beings. For Llewellyn observes that the position of each human being as a *khalīfa* on the Earth has received considerable attention by Muslim writers in the twentieth century; and its misrepresentation (and misapplication) perhaps is because,

Under the influence of European Humanism, and in response to allegations that Islam gives too little value to human being, Muslim writers have felt the need to prove that man (sic) has exalted status. As enthusiasm for "progress" and "development" swept the poorer countries of the world, some reformist thinkers even interpreted the concept of *khilafa* as a mandate to exploit and develop the earth on behalf of God.<sup>76</sup>

It may thus be argued from a practical ecological point of view that most practising Islamists, particularly at grass root levels, likely do not have a thorough and persuasive understanding of the *khalīfat* concept in relation to Earth keeping. Ibrahim Özdemir blames the loss of many animal species on 'our unawareness of Qur'anic values, which regulate... humankind's relations with other living species.'<sup>77</sup> Or the concept as a religious belief lacks the pervasive influence of a religious ecology that Mathew Clarke describes.<sup>78</sup> I have earlier pointed out that *khalīfacy* or stewardship/managerial ideology is religiously laudable, but may require discipline of adhering to the concept of *qādr* or 'limits' both of the ecosystem and the human managers, to be successful.<sup>79</sup> Moreover, since they serve not themselves but their Lord and his purpose as trustees,<sup>80</sup> *khalīfats* necessarily need be in tune with the eco-ethical and religious caring instructions of their Lord (God) from his Books, the Qur'an and/or the natural world. A significantly known and promoted concept of such eco-information in Islam is '*mīzān*, balance in nature.'<sup>81</sup>

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<sup>73</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 191.

<sup>74</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 191.

<sup>75</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 190.

<sup>76</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 190.

<sup>77</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 22.

<sup>78</sup> Clarke, *Development and Religion*, p. 1.

<sup>79</sup> Curry, *Ecological Ethics – Introduction*, p. 35.

<sup>80</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 190.

<sup>81</sup> Adnan Z. Amin, 'Preface to Islam and Ecology', in Foltz et al., eds., *Islam and Ecology*, p. xxxiii.

### 5.3.3 The Concepts of *Fitra* (Instinct) and *Mīzān* (Cosmic Balance)

The third reason for Islamic eco-praxis arises from their self-understanding that humans have instinctual consciousness of our manifold but balanced relations with God and the rest of creation; creation care ought to be a matter of course to humanity. In Islamic ecological reconstruction, ecological crisis is merely a symptom of the broader calamity that human societies are not living in accordance with God's will,<sup>82</sup> which is diligently and purposefully demonstrated in the ordered and just world (cosmos) that he created. Muslim scholars argue that a careful search into and comprehension of the Book of Nature, like the Qur'an, will awaken human instinctual consciousness of our manifold relations with God and the rest of creation. The reason is that Islam is '*din al-fitra*'; a religion which reminds that instinctual knowledge is true and primordial (original nature) of humanity by which we live in accordance with the environment. Therefore, environmental consciousness is something that needs not be taught, but merely awakened from observational knowledge of nature and/or reflecting on the Qur'an.<sup>83</sup> This sounds like the Akan proverb *obi nkyere abofra Onyame* (no-one points God to a Child), implying the Akan (and hence the African child) knows God instinctively from historical intimate experiences with and in the indigenous environment. In addition, it connotes also the idea that the indigenous African child is culturally endowed with the potential for right and wrong about the environment in its consciousness.<sup>84</sup>

Patrick Curry suggests that any ecological ethic reconstruction today is only a 'reawakening of something very old' that we have forgotten from our intuitive experience of indigenous culture.<sup>85</sup> This affirms the Islamic assertion that eco-praxis arises from instinctual consciousness of our manifold but balanced relations with God and the rest of creation.<sup>86</sup> Muslims thus believe that carefully examining the heavens, the Earth, all creaturely things and natural phenomena in the environment, one cannot but marvel and praise God as the Creator. The learner would necessarily conclude: 'Our Lord! Not for nothing have You created (all) this! Glory to You (Qur'an 3:191).'<sup>87</sup> This is natural theology - affirming faith in God from his creation through doxological contemplation. Arthur Holmes refers to this type of learning by doxological contemplation in the early centuries of Christianity, and observes that it moulds a religious moral consciousness.<sup>88</sup> Similarly, Muslims believe such experience changes in the searcher's worldview, self-image, attitude, feelings and the patterns of relationships with reality.<sup>89</sup> For the Muslim, the aim of nature is then to point to humanity not only God's ownership of creation, but also his established laws of nature that ensure *mīzān* (cosmic and ecological harmony or balance).

Talking about balance in the ecosystem Fazlur Rahman, in his *Major Themes of the Qur'an*, explains that 'when God creates anything, He places within it its powers or laws of behaviour called in the Qur'an "guidance", "command", or "measure" whereby it fits into the rest of the universe.'<sup>90</sup> He implies that God potentiates creation to fulfil its purpose without fail as *ayā* by obeying (submitting to) the functional laws to ensure ecological balance (material sustenance) and justice (ethical relations) in the universe. The importance of ecological balance in Qur'anic discourse is further emphasised by Qur'an 55:5-9. It reads:

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<sup>82</sup> Foltz, 'Introduction' to *Islam and Ecology*, p. xxxix.

<sup>83</sup> Chishti, '*Fitra*: An Islamic Model for humans and the Environment', p. 67.

<sup>84</sup> Opoku, 'Cooking on Two Stones of the Hearth?' pp. 3-9 (5).

<sup>85</sup> Curry, *Ecological Ethics*, p. 12.

<sup>86</sup> Chishti, '*Fitra*: An Islamic Model for humans and the Environment' p. 67.

<sup>87</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', pp. 7-8.

<sup>88</sup> Holmes, *Building the Christian Academy*, p. 2.

<sup>89</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 6.

<sup>90</sup> Fazlur Rahman, *Major Themes of the Qur'an*, (Minneapolis: Bibliotheca Islamica, 1980), p. 67. See also Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 13.

The sun and the moon follow courses (exactly) computed; And the herbs and the trees - both (alike) bow in adoration. And the firmament has He raised high, and He has set up the balance (of Justice), In order that you may not transgress (due) balance. So establish weight with justice and fall not short in the balance. (Quran 55:5-9).<sup>91</sup>

It is deducible from Muslims' explanations of this verse that it portrays how that the firmament keeps its given height and the heavenly bodies, like sun and moon, also stick to their given orbits to sustain balance (rightful relativity) in the cosmos (universe) without fail.

That these cosmic bodies keep rightful relations is a warning sign for humans 'not to transgress balance' (ethical relations) in all aspects of life. This includes 'how [people] *ought* to live and act'<sup>92</sup> ecologically. The phenomenon of cosmic and/or material balance or self-conservation in Islamic worldview corresponds with observations in cosmological and ecological sciences, except with the difference that observable self-conservation in nature is actually a doing of God. Arguing with evolutionary philosophy regarding the origin of the Earth, Swimme and Tucker refer to 'self-organisation dynamics' in nature as a process to maintain the delicate conditions of life on Earth. They see Earth as a creative community of beings that reorganises itself age after age so that it can perpetuate and even deepen its vibrant existence.<sup>93</sup> Ecologically the Qur'anic worldview suggests that the nonhuman creation, adhering to the *ḥwāmīr* or natural laws, cannot cause perturbations of ecosystems if not interrupted by human beings. Rather, due to the divine *ḥwāmīr* ordained by God eco-balancing processes such as 'biogeochemical cycles'<sup>94</sup> exist in ecosystems. Nomanul Haq asserts that there is a due measure (*qādr*) to things, and a balance (*mīzān*) in the cosmos which humanity must not disturb but fulfil<sup>95</sup> looking unto the *amr* as self-sustaining law of nature.<sup>96</sup> In other words, since the 'natural law *is* never violated as things run their customary course, moral law *ought not* to be violated.'<sup>97</sup>

Thus it is reasonably arguable that these Qur'anic texts alone could be enough for developing an environmental ethic of respecting and preserving just and balanced ecological relations by all humanity.<sup>98</sup> The Muslim, in particular, is thus expected to live in 'better harmony with his surroundings than any other type of man (sic)',<sup>99</sup> perhaps, because of the strong theological inferences in Islam. Yet, as Özdemir laments, Muslim jurists have lagged behind in contributing solutions to the intensifying environmental problems afflicting Islamic lands. It is because they lack (or are yet rediscovering and formulating) well articulated Islamic environmental ethics and laws;<sup>100</sup> but at the same time reject those borrowed from industrial West, seen as having been derived from alien beliefs.<sup>101</sup> At the local front in Ghana, a similar attitude is noticed from my unpublished research into the motivation for and praxis of ecological ethics among Muslims in Sokpo riverine ecological area in South Tɔŋu, Volta

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<sup>91</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 13.

<sup>92</sup> Curry, *Ecological Ethics – Introduction*, p. 28.

<sup>93</sup> Swimme and Tucker, *Journey of the Universe*, p. 56.

<sup>94</sup> Cunningham and Saigo, *Environmental Science-A Global concern*, p. 595 define 'biogeochemical cycles' as 'movement of matter between or within ecosystems; caused by living organisms, geological forces, or chemical reactions. The cycling of nitrogen, carbon, sulfur, oxygen, phosphorus, and water are examples.'

<sup>95</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction,' p. 127.

<sup>96</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction,' p. 137.

<sup>97</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction,' p. 132. Italics in the original text].

<sup>98</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective' pp. 13-14.

<sup>99</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective' p. 16.

<sup>100</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective' p. 28.

<sup>101</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 186.

Region.<sup>102</sup> Muslims participating in this study seem to have no distinctively Islamic eco-ethics. Yet they vehemently oppose the primal religious eco-regulations and rituals in order not to compromise the purity of their Islamic faith and fate while sharing the same riverine ecosystem with the traditionalists and Christians.

The seemingly lack of practical Islamic ecological values, ethics and norms may be due partly to the observation that though the Sokpoe-Moslem's life and living is highly determined by the teachings of Qur'an, yet they, like 'the majority of Muslims in the Islamic world', are unaware of the 'powerful and persuasive spiritual teachings of Islam about the natural world and the relations of human beings to it.'<sup>103</sup> Idrisu Ibrahim, son of the Zamarama *sarachi* of Sogakɔfe zongo, laments how that the imams do not teach 'these things; they have only one message instead of addressing pertinent issues in our lives.'<sup>104</sup> Idrisu was virtually echoing the same feelings of Seyyed Hossein Nasr, who, writing on 'Islam and the Environmental Crisis,' decried that even the '*ulamā*' (traditional guardians of Islamic knowledge in its various dimensions), do not teach or preach the Islamic views on the environment.<sup>105</sup> And may be the imams do not address environmental issues because generally the exceedingly rich contributions that Islamic law and ethics have to offer in addressing environmental concerns in the Islamic world as a whole remain largely unarticulated, (not promoted) and unrealised.<sup>106</sup> Chief Imam Mahmud Abu Bakr of Sogakɔfe zongo admitted with humility that it is not everything that 'I know because of the level of my education'.<sup>107</sup> Despite not being well informed ecologically, he and other Muslims in this study detest any ecological regulations not specifically attributable to Qur'an, and for that matter, Allah. All these notwithstanding, it is encouraging to know that Islamic eco-ethic is being reconstructed and practised 'today, at the dawn of the twenty-first century and in a time of worldwide environmental crisis'<sup>108</sup>

### 5.3.4 Islamic Eco-Valuing, Ethical Principles and Praxis

In Islam ecological values and ethics are together reconstructed from the Qur'an and Hadith as part of the legal and moral principles in the *fiqh*-law. For Islam in its essence is a religion of law - the *sharī'a*, which literally means the guided Way to Life.<sup>109</sup> According to Nomanul Haq, '*Fiqh*, or the Islamic science of jurisprudence, is a systematic and fully structured theoretical search for God's *sharia*, or Way [of life], that had to be gleaned from and constructed out of the myriad of *adilla* (here, legal indicators) provided for reflection throughout God's *āyāt*.'<sup>110</sup> Practically, *fiqh* includes axiological and ethical principles for understanding or determining the legal status of an act, 'a determination arrived at through the application of *correct*, though not epistemologically certain, procedural rules.'<sup>111</sup>

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<sup>102</sup> Ebenezer Yaw Blasu, 'Religious Cosmology and Ecology: Praxis of Religious Ecological Valuing and Ethics of the Sokpoe-Eve Eco-Community.' (Unpublished paper, Excerpt from research conducted in February to August 2016 as part of the current PhD thesis).

<sup>103</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis,' p. 85.

<sup>104</sup> Idrisu Ibrahim, interview at Sogakɔfe, 23 April 2016.

<sup>105</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis', p. 87.

<sup>106</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 186.

<sup>107</sup> Imam Mahmud Abu Bakar, interview at Sogakɔfe, 5 April 2016.

<sup>108</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 29.

<sup>109</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 186.

<sup>110</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 142.

<sup>111</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 142. [Italics in original]. According to Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 187, acts are evaluated with a five-tiered scale: an act may be obligatory, recommended, permitted, reprehended or prohibited. Thus it provides

The ultimate ethical and legal objective of *fiqh* is the welfare of God's creation on Earth and beyond, known as 'Masālih al-khalq: *the universal common good*'.<sup>112</sup> Other guiding principles derived from this include 'Masālih' and 'mafāsīd', the law of benefits and detriments. This law operates through emphasis on maximising ecological benefits and minimising detriments; universal versus individual welfare, which encourages preserving eco-community interest over the individual interest; or the greater preferred to lesser ecological needs. The rest of the ethical principles include choosing the lesser of two ecological evils; the interest of the powerless over the powerful in eco-justice; and averting detriments by taking precaution to prevent ecological harm rather than insist on benefit.<sup>113</sup>

These principles are not without challenges. They are highly anthropocentric and, at best, what Curry calls 'moral extensionism' to describe 'mid-green or intermediate' ecological ethics.<sup>114</sup> That is to say, what has been thought of first as human values are considered also true of nonhumans, and is the easiest way in retrieval and reconstruction in an eco-ethical project. The challenge, however, may be that with moral extensionism nonhuman creation remains vulnerable to anthropocentric treatment: 'the land, air, water and other animals will always in the crunch take second place to the perceived welfare of self, family and friends.'<sup>115</sup> For instance, in applying 'the benefits and detriments' principle 'how does one measure total benefits and costs, material and nonmaterial, for humans and other creatures?'<sup>116</sup> Or since in Islam known interests supersede conjectural or probable interests, will there be the political will to 'approve a project of which the economic benefits are known, while scientific information regarding harmful impacts to human health and ecosystems is incomplete or inconclusive?'<sup>117</sup>

Apparently, practical environmental ethics tend to be articulated more from the Hadith than the other *āyāt* of God. As Haq notes, in the Hadith there are several concerns expressed with a degree of urgency pertaining to the natural environment, its status, its relation to human life and, hence, what may be termed environmental ethics.<sup>118</sup> They include, inter alia, concerns about animal sacrifice, agriculture and land cultivation, medicine, hunting, use of water and irrigation.<sup>119</sup> The importance of Hadith in retrieving and reconstructing Islamic ecological ethics is because the Hadith is regarded as a translation of broad Qur'anic eco-principles into specific rules for the actual practice of the eco-community. Moreover, being the established tradition from the life of the Prophet, Hadith is a model all Muslims are *required* to emulate and follow.<sup>120</sup>

Among many others, two pertinent creation care or practical ecological models in the Hadith include the institutions of *himā* and *harām*. They had a long history of pre-Islamic abuse of land exploitation and dispossession. But Muslims claim they were transformed by the Prophet to become environmental and ethical policies. *Himā* literally means protected or forbidden place for natural life<sup>121</sup> and may be considered the Islamic equivalent of contemporary reserved forested land, natural parks and nature conservancy.<sup>122</sup> Four

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prohibitive, injunctive and prescriptive ethics enforceable by individual and social conscience in addition to imperatives enforced by the courts.

<sup>112</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 193. (Italics in original text).

<sup>113</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', pp. 194-197.

<sup>114</sup> Curry, *Ecological Ethic: An Introduction*, p.72.

<sup>115</sup> Curry, *Ecological Ethic: An Introduction*, p.72.

<sup>116</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 195.

<sup>117</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 197.

<sup>118</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 141.

<sup>119</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 142.

<sup>120</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction,' p. 141. [Italics in the original].

<sup>121</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction,' p. 144.

<sup>122</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis', p. 98.

conditions determine declaring *himā*: need and fairness ensured by the community, ecological proportionality relative to total land area of community, resisting commercialised development and envisaged economic gains to be in interest of societal welfare.<sup>123</sup> Similarly, *harām* as sacred territory is often associated with wells, natural springs, rivers, and forests on waste land (*mawāt*).<sup>124</sup>

Daily prayers are also considered an important Islamic ecological praxis; they make humans be identified with and integrated in nonhuman creation as both obey the call to pray by standing up, bending and prostrating.<sup>125</sup>

Like Muslims, Christians also have reasons or motivators for participating in global search of pragmatic resolution for ecocrisis.

## 5.4 The Impulsion For and Praxis of Creation Care in Christianity

From the Christian worldviews examined in the previous chapter, I notice three sources to draw undegirding motivation for Christian participation in current global concerns about the environment. These are the theocentric worldviews of creation, humanity's kinship with creation and the theomorphic status of humanity as *imago Dei* and vicegerent.

### 5.4.1 The Christian Theocentric Worldview as Impulsion for Eco-Praxis

A primary motivation for Christians to care for creation may be inferred from the teaching that Christians are to obey and please God as well as seek his righteousness as their love for God in all their relationships in the ecosystem. This implies a theocentric worldview. Theocentrism is basically a Judeo-Christian ideology, connected to Theocracy.<sup>126</sup> Author Richard A. Young rightly points out that a Christian theocentric worldview teaches that God is the centre of the universe; the source, upholder of meaning, purpose, values, ethics as well as the unifying principle of the cosmos. Everything exists for the sake of God and to serve his purposes.<sup>127</sup> Christian theology affirms that there is only one God, whom the Christian must not only love with all the soul, heart and might (Deut. 6:4-6), but also look up to for help in all situations, because He is the creator, owner, sustainer, protector and redeemer of the Earth and all in it (Ps 121:1-8). A consequence of this theocentric affirmation is the Christian's urge to love God (Jn. 14:24) by obeying and pleasing him in all things, including ecological responsibilities. The urge to love God in all things becomes the motivation in theocentric cosmology for ecological actions, including ensuring ecological relations that reflect the righteousness of God in the eco-community (Matt. 6:33).

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<sup>123</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 144.

<sup>124</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction', p. 144.

<sup>125</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective' p 18 makes this point upon agreeing with Muhammad Hamidullah that mountains stand immobile like Muslims 'stand before Allah devoutly' (Qur'an 2:238); animals remain perpetually bent as Muslims are commanded to do (Qur'an 2:43) and trees remain prostrate as Muslims are ordered to do in Qur'an 53:62).

<sup>126</sup> Victus, *Eco-Theology and the Scriptures*, p. 119.

<sup>127</sup> Young, *Healing the Earth*, p. 128. The ecological implications listed by Richard Young (p. 128) include: Theocentrism resolves the ethical dilemma without giving humanity absolute rights; preserves the uniqueness of humanity without yielding to anthropocentric arrogance; provides basis for true stewardship; provides direction in resolving environmental problems (divine intention in creation); encourages us to put faith and trust in god for the ultimate solution to our ecocrisis; provides a reason for the existence of every creature; and because it produces a holistic view of life, since everything is related by virtue of its being created by God.

There are significant ecological implications for promoting Christian theocentrism. Richard Young argues that it encourages us to put faith and trust in God for the ultimate solution to our ecocrisis; provides a reason for the existence of every creature; and it produces a holistic view of life, since everything is related by virtue of its being created by God. Simon Victus opines, and it is practically a considerable view, that Christian theocentrism may be an ultimate solution to the present divergent views for tackling the ecocrisis. This is because it encompasses the concerns of the other views such as anthropocentrism, biocentrism, ecocentrism et cetera, without doing injustice to any of them and without acquiescing in their shortcomings. I believe that a paradigm shift towards theocentrism will influence environmental vicegerency, which is our human responsibility to the environment and expression of faith that the whole cosmos is a living revelation of God. But our environmental vicegerency may be moved also by the fact that we share materiality with nature as ecological kin and kith.

#### 5.4.2 Human Kinship with the Earth as Reason for Creation Care

Another reason or motivator for Christian participation in creation care praxis may be found in the reconstructed idea of our kinship with the Earth. Kinship with nature is a biblical truth presented in both the Old and New Testaments stories or teachings about creation, its sustenance and hopeful redemption. Gillian Bediako claims it was 'abandoned inadvertently due to erroneous and ignorant Western Christian theology, but recoverable in African primal spirituality.'<sup>128</sup> An example of strong African primal religious belief in kinship with nature, which can be reconstructed for Christian theocology, is observable in the birthing rites of the Sokpoe-Eve as found in chapter ten of this thesis. The ceremony involves burying umbilical cord and placenta in the soil, placing baby nakedly on bare soil, and ensuring it urinates onto the soil. All these symbols are to inform and ground the baby as an earthling, which primes it for creation care as it grows into responsible status. Bryant Myers observes, 'while in no way the same, the worldview of the bible is closer to the worldview of traditional cultures', such as in Africa, 'than it is to the modern worldview'<sup>129</sup> of the West. They are both not only holistic but also suggest strong bond between humanity and the materiality of Earth, particularly as demonstrated when Christ - 'the creator, sustainer, and redeemer of creation' - 'became flesh' or earthling.<sup>130</sup>

That both humankind and nonhuman creatures are kin, is noticeable in the Christian views and teachings on creation and salvation. From creation stories it is obvious that both humans and nonhuman creatures are products of the same material substance, elements of Earth. We saw earlier that soon after their emergence the primordial Earth and its waters were involved by God to participate in his ongoing creative activity. The Earth responded to God's call and put forth vegetation and various kinds of beasts (Gen. 1:11, 24), and the waters and air (atmosphere) produced swarms of aquatic living creatures and birds, respectively (Gen. 1:20).<sup>131</sup> Then towards the end God formed humanity (*adam*) of the dust from the ground (*adamah*) (Gen. 2:7a). Thus all are created by the same God, from the same materials; and by virtue of divinely endowed function they all serve in mutual or symbiotic vocation to sustain all life on Earth. In Ghana concerning forests, for example, it is commonly said: 'when the last tree dies the last man dies.' But to emphasise the fact that the only possible breach of this

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<sup>128</sup> Gillian M. Bediako, 'Primal religion and Christian faith: Antagonists or soul-mates?' *Journal of African Christian Thought*, Vol.3, no. 1, (June 2000). p. 14.

<sup>129</sup> Myers, *Walking with the Poor*: p. 8.

<sup>130</sup> Myers, *Walking with the Poor*: p. 8.

<sup>131</sup> Schwarz, *Creation*, p. 170.

mutual function is anthropogenic, American Indians of the Cree tribe formulated this statement more fittingly: 'Only when the last tree has been cut, the last river is poisoned, and the last fish is caught, one will realize that one cannot eat money.'<sup>132</sup>

As in creation, so also is the doctrine of salvation. Humanity's kinship with nature is so apparent in Africa that we need to shift from a personal to a cosmic view of salvation. From the theological point of view Golo decries how that traditionally Christian salvation theology emphasises only individual encounter with Jesus Christ leading to repentance and redemption from sin, the transformation into a new person and empowerment through the Holy Spirit to live a new life. 'Salvation' in that sense 'is understood spiritually and heavenwards and pictured as an eschatological blissful state in which Christians participate'.<sup>133</sup> Yet ecologically this means removing humanity from this creation, regarded as corrupted by sin from its goodness, into the 'transformed and sanctified state through the sacrifice of Jesus Christ'.<sup>134</sup> The result is that the cosmic shape of salvation is minimised or even entirely overlooked in western Christianity.

Golo continues that the other-worldliness concept of Christian salvation theology spilled over to Africa through western missionaries and did not only find home, but was even radicalised due to the holistic but precarious African cosmology. In this cosmology multifarious spirits vivify the cosmos, but malevolent ones may discourage belief in Christ and living fulfilled Christian life. Hence salvation is understood as redemption from sin and evil forces, transformation into new person and turning away from creation by waging war against the evil forces within it.<sup>135</sup> Birgit Meyer observes among the Peki-Eve in Ghana that the Pietistic salvation message of the Norddeutsche Missionsgesellschaft (NMG) did not only 'demonise' the 'Eve gods and spirits', but also drew a 'boundary between Christianity and Eve religion'<sup>136</sup> and hence, cultural self-understanding. It is not surprising, for instance, that despite the strong kinship belief exhibited in primal religious birthing rites at Sokpoe ecological area in Ghana, the Christians there, also nurtured mostly with western Pietistic Protestant theology by the Basel missionaries (BM), expunged the symbolic grounding rituals from the outdoor liturgy, because they are '*egodotowo to*' (for non-Christians).<sup>137</sup>

Furthermore, the mercantilist manner of presenting the salvation message in Africa resulted in an anthropocentric utilitarian notion of salvation that has reduced the Earth to commoditisation, with no spiritual significance, save an abode of demonic spirits which must be overcome if humans would live in material prosperity - a sign of salvation especially in neo-Pentecostalism. In her analysis of the Peki-Eve's reasons for converting to Christianity Birgit Meyer believes that 'Christian religion was attractive because it offered the material means to achieve a prosperous and relatively high position in colonial society'.<sup>138</sup>

In a nutshell, missionary dualistic worldview and otherworldly salvation theology in contemporary Africa has not succeeded in sustaining the way the primal African conceives of creation.<sup>139</sup> Yet, neither did it succeed also in completely unravelling the African Christian's holistic but precarious cosmology. Birgit Meyer concludes 'demonisation by no means implies that the former gods and spirits [in Eve cosmology] will disappear out of people's lives', including Christians.<sup>140</sup> Thus the Eve Christian is left in a religious dilemma of how

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<sup>132</sup> Andreas Nehring, ed. *Ecology: A Theological response*, (Madras: Gurukul Lutheran Theological College & Research Institute, (Summer Institute), 1993), p. 254. See also Victus, *Ecotheology and the Scriptures*, p. 6.

<sup>133</sup> Golo, 'Redeemed from the Earth?', pp. 348-361 (356).

<sup>134</sup> Golo, 'Redeemed from the Earth?', pp. 348-361 (356).

<sup>135</sup> Golo, 'Redeemed from the Earth?', pp. 348-361 (351).

<sup>136</sup> Meyer, *Translating the Devil*, p. xvii.

<sup>137</sup> James Cudjoe, Church of Pentecost, interview at Sokpoe, 26 June 2016.

<sup>138</sup> Meyer, *Translating the Devil*, p. 11.

<sup>139</sup> Golo, 'Redeemed from the Earth?', pp. 348-361(352).

<sup>140</sup> Meyer, *Translating the Devil*, p. xvii.



the Christian salvation theology pragmatically reconciles monotheism with Africans' ontological experiences of other spiritual forces vivifying the geosphere.

Yet Jesus' death and resurrection brings humans into a state of reconciliation with God and also open the way for the reconciliation of all things to God. The Earth does not only suffer God's curse on and destruction of humanity due to the latter's disobedience or sinfulness (Gen. 3:17-19; 6-8), but also co-enjoys God's promise of no destructive deluge again (Gen.9: 7-17) and hopeful redemption (Rom. 8:19-23). Saint Paul teaches that creation waits in eager expectation for the children of God to be revealed. For the creation was subjected to frustration, not by its own choice, but in hope that it will be liberated from its bondage to decay and brought into the glorious kingdom of the children of God by the same redeemer, who had permitted the subjection.

So the redemption of the Earth for eternal existence is also linked with that of humanity - to have full life (John 10:10). Before the consummation of redemption, both humanity and creation groan from the consequences of 'their'<sup>141</sup> sin, which threaten destruction of their life, painfully, to decay. However, to the Christian, biogeophysical cyclic processes that ensure equilibrium of the ecosphere for life are divine provisions for healing. Christian doctrine asserts that God the Father heals his people and the land (all creation, 2 Chron. 7:14-15); and that Christ as the perfect human (Son of God), who is identified with and so represents the whole creation (Col. 1:15-20), met the required conditions, when strengthened by the Holy Spirit (Luke 22:43), atoned for the sins of creation with his blood on the cross (Is. 53:4-5). Ernest Lucas believes that Jesus' healing miracles should not be seen in a purely human-centred perspective. They are signs of the coming renewal of the whole created order.<sup>142</sup>

Thus despite threatening devastations of terrestrial life as consequences of sin, all creation hopes for the triune God's active sustenance and working towards consummation of redemption for eternal fullness of life. In this way, Christ the second Adam is 'keeper' of the Earth more perfectly than the first Adam since in him 'all things hold together' (Col. 1:17).<sup>143</sup> Perhaps the first Adam (fallen humanity) became ecologically bankrupt due to misinterpretation of its cultural self-understanding as the image of God.

### **5.4.3 Human Self-understanding as *imago Dei* and Vicegerent as Impulsion for Creation Care**

Two Christian teachings that are controversial and yet truly underscore and mandate Christians to practise creation care are the theomorphism and vicegerency of humanity. Biblical texts such as Gen.1:26ff and Ps. 8:4ff describe humanity as a being in the image of God or after his likeness (*imago Dei*) or a little lower than God and given dominion over God's handiworks. But ecologically these passages have been problematic. Often they are interpretively reduced to the anthropocentric '*imago Dei*' and 'dominion' theses, which have been the cause of many debates, accusations and labelling of Christianity as anti-ecological religion and great contributor to the current ecocrisis.<sup>144</sup> However, it is arguable that the problematic nature of this doctrine in itself suggests its potency also as an impulsion for Christian ecocare praxis. Thus it is important that we discern what it means to be created in

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<sup>141</sup> As we discussed earlier the sin of humanity was imputed for creation also and both started suffering its consequences of varied 'painful' experiences since the time of Adam (Gen.3:16-19)

<sup>142</sup> Ernest Lucas, 'The New Testament teaching on the environment,' *Transformation: An International Journal of Holistic Mission Studies*, Vol.16, No. 3, July 1999, pp. 93-99 (94).

<sup>143</sup> Daneel, *African Earthkeepers: Wholistic Interfaith Mission*, p. 215.

<sup>144</sup> Lynn White Jr., 'Historical Roots of Our Ecological Crisis', *Science*, 155, (10 March 1967), pp. 1203-7 is the most noted accuser of Christianity's ecological heritage based on this passage. See also Curry, *Ecological Ethics*: p. 33.

God's image<sup>145</sup> particularly in reconstructing Christian theology with regards to the place or role of humanity in creation.

According to Solomon Victus, in the OT, two Hebrew words *tzelm* (image) and *demut* (likeness) are used for the expression 'created as *imago Dei* (God's image).' The former refers to physical form like an image or idol, which cannot be conceived in Hebrew thought, given their strict adherence to the Decalogue; and the latter is simply a similitude. Therefore, Victus argues that in the Priestly text of Genesis these words are just a 'synonymous parallelistic statement' being a literary genre of Hebrew poetry though some try to differentiate between them.<sup>146</sup> In any case since in the biblical creation stories only humanity was created in and designated as *imago Dei* it is not difficult to conclude humans 'are very close to God'<sup>147</sup> and have an elevated position over against other creatures.<sup>148</sup> For instance, humans, by virtue of their genetic programming and neurobiological possibilities, have been endowed with unique capabilities, with which they shape the Earth for good or bad, and hence, are co-creators with God;<sup>149</sup> but also, unlike God, are destroyers of creation. As John Chryssavgis argues 'the human person is characterised by paradoxical dualities: ...created yet creative.'<sup>150</sup>

But this is not to be understood as deifying humans or making them domestic servants of the gods as in Mesopotamian and Babylonian mythologies, respectively,<sup>151</sup> despite such a suggestion in Ps. 82:6a 'You are gods, sons of the Most High, all of you.' Leonardo Boff argues from an Eastern Orthodox Christian understanding that when viewed in God's perspective and light, all things are sacraments; and 'the word, human beings, and things are signs and symbols of the transcendent.'<sup>152</sup> Boff implies, agreeably, that the meaning of *imago Dei* and humanity being given 'dominion' need to be viewed and interpreted in the perspective and light of God in reconstructing Christian theology, for instance. Doing so brings out that both humans and nonhuman creation (things) are both matter with same moral and sacramental value; both then matter in the sight of their maker, God.

In other words, human needs and desires are not to be considered in any sense higher than those of the rest of nature (without reference to God), for the human is nothing more than a part of nature before God.<sup>153</sup> Thus even if humans are given the special status of image of God we do not have the mandate to be arrogant, dominant and oppressive.<sup>154</sup> Rather the OT text means to be God's vicegerent; 'to act [graciously] in God's place, as his administrator and representative' of the ecosphere; and, from the NT, it is 'to be ethically shaped in conformity with God and to act in a manner for which God serves as the prototype [ecologist] (Phil. 2:5; Rom. 15:5)'<sup>155</sup> As Schwarz explains, being in God's image and having dominion does not imply a special ontological quality, but an assertion about the ecological function of humanity. It is a role that contains authority but at the same time humility to represent and model God's loving and caring nature, which then makes us truly creatures and also

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<sup>145</sup> Schwarz, *Creation*, pp. 179-180.

<sup>146</sup> Victus, *Eco-Theology and the Scriptures*, p. 83.

<sup>147</sup> Victus, *Eco-Theology and the Scriptures*, p. 83.

<sup>148</sup> Schwarz, *Creation*, p. 181.

<sup>149</sup> Schwarz, *Creation*, p. 175.

<sup>150</sup> John Chryssavgis, 'The world of the Icon and Creation: An Orthodox Perspective on Ecology and Pneumatology,' in Dieter T. Hessel and Rosemary Radford Ruether, eds. *Christianity and Ecology*, (USA: Harvard University Press, 2000), p. 87.

<sup>151</sup> Schwarz, *Creation*, p. 181.

<sup>152</sup> Leonardo Boff, *Sacraments of life-Life of sacraments* (Washington, D.C.: Pastoral Press, 1996), pp. 49-51. See also Dieter T. Hessel and Rosemary Radford Ruether, eds. *Christianity and Ecology*, (USA: Harvard University Press, 2000), p. 90.

<sup>153</sup> Victus, *Eco-Theology and the Scriptures*, p. 103.

<sup>154</sup> Victus, *Eco-Theology and the Scriptures*, p. 83.

<sup>155</sup> Schwarz, *Creation*, p. 182.

cocreators.<sup>156</sup> That humanity's 'dominion authority' demands humility and moral accountability is because it is derived; only God wields actual dominion over creation as Peter succinctly spells out: 'To God be dominion forever and ever' (I Pet. 5:11).

It is also a role with moral responsibility. The first Adam was thus given functional instruction to 'work' (use) and yet 'keep' (care for or sustain) the land (Gen. 2:15); but he cannot have full freedom to do whatever he wants to do, being limited and forbidden to eat of the fruit of the tree of the knowledge of good and evil (Gen. 2:17). So he can function only within the limits of and according to God's ecological ethics such as sustainable use of resources (Gen. 2:15) and Sabbath rest (Gen. 2:2). His authority is derived from God and is 'not a licence to anthropocentrically exploit creation and subjugate it to his desires.'<sup>157</sup> Norman L. Geisler discusses the materialistic, pantheistic and Christian worldviews in his chapter on Ecology. He concludes that in Christianity God is the creator and humans are the keeper of God's glorious world. It is our duty to keep and not corrupt, to preserve and not pollute.<sup>158</sup> Doing otherwise is ecological sin.<sup>159</sup> Yet, as I see it, that is the fate which exactly befell the first *Adam* (the fallen humanity); he has historically exhibited success in 'working' but failed woefully in 'keeping' the land. It would be left for Christ, the second *Adam*, as Daneel says, to prove a 'keeper' of the Earth more perfectly than the first Adam since in him 'all things hold together' (Col. 1:17).<sup>160</sup>

The theologological implication is that just as the first Adam represents fallen humanity so Christ, the second Adam, is a figure of the regenerated humanity (Rom. 5:18-19), the head of the new creation (2 Cor. 5:17). Jesus, unlike sinful Adam, is the exact imprint of God's nature (Heb. 1:3). He then demonstrates the true picture of being in God's image, vicegerent and, therefore, the one with the perfect creation care disposition. Jesus the Word as the creator is also the Word become flesh (John 1:14);<sup>161</sup> and in the flesh he is the one who truly reveals God, 'the image of the invisible God, the firstborn of all creation (Col. 1:15).<sup>162</sup> He then is the one in whom the image of God (*imago Dei*) is restored, and consequently he makes believers 'a new creation' (2 cor. 5:17).<sup>163</sup> What it means is that as in Christ we are being reconstituted with the true *imago Dei* nature, it is imperative that we are motivated as vicegerents to care for creation in Christ's way. We are created in Christ Jesus for good works (beginning with creation care, Gen 2:15), which God prepared beforehand so that we should walk in them (Eph. 2:10b).

Thus, in practice we must care for creation because humans are immersed in nature, inexorably woven into profound relationships that constitute life on Earth.<sup>164</sup> Humans are called to a priestly role of responsibility and vicegerency toward creation. This sense of a call to responsible Earth-care, made the Ecumenical Patriarch Bartholomew to speak of human degradation of the environment as ecological sin.<sup>165</sup> We sin against God who created to

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<sup>156</sup> Schwarz, *Creation*, p. 183.

<sup>157</sup> Schwarz, *Creation*, p 182.

<sup>158</sup> Norman L. Geisler, *Christian Ethics: Contemporary Issues and Options*, 2nd ed. (Grand Rapids, Michigan: Baker Publishing, 1989, 2010), p. 333.

<sup>159</sup> Metropolitan John (Zizioulas) of Pergamon 'POPE FRANCIS' ENCYCLICAL LAUDATO SI':

A COMMENT' on Jun 18, 2015. Vatican 18.6.2015. Accessed, 19 June 2015,

<http://www.goarch.org/news/metropolitanjohnpergamon-06182015>.

<sup>160</sup> Daneel, *African Earthkeepers: Wholistic Interfaith Mission*, p. 215.

<sup>161</sup> Keitzar, 'Creation and Restoration', p. 59.

<sup>162</sup> Keitzar, 'Creation and Restoration', p. 60.

<sup>163</sup> Keitzar, 'Creation and Restoration', p. 61.

<sup>164</sup> Richard Bauckham, 'The New Testament teaching on the environment: A response to Ernest Lucas,' *Transformation: An International Journal of Holistic Mission Studies*, Vol.16, No. 3, July 1999, pp. 99-101 (100).

<sup>165</sup> His Holiness Bartholomew I, through John Zizioulas of Pergamon, on 'Pope Francis' Encyclical Letter *Laudato Si'* of The Holy Father Francis on Care for Our Common Home, on 24<sup>th</sup> May 2015: A Comment,'

reveal himself and provide a good place for us to live; we sin against the environment and ourselves by blocking the environment from nurturing us.<sup>166</sup> However, in obeying the call, as Curry warns, we must recognise creation's limited carrying capacities and the limits of our caring<sup>167</sup> by adhering strictly to God's eco-values and eco-ethics. For, only humans in all creation will be held accountable for the way(s) in which we have exercised our responsibility.<sup>168</sup>

#### 5.4.4 Christian Eco-Valuing and Practice of Eco-Ethical Principles

Reconstructing Christian eco-values, ethics and regulations is a formulation of principles based on our theocentric worldview. These principles are reflected in and may be gleaned from the Christian bible, but particularly the Genesis stories of creation and OT in general, which lay the foundation for our Christian theocentric eco-ethics. Norman Geisler contends that Christians may not be bound by all OT environmental laws, particularly the ceremonial and sacrificial regulations already fulfilled by Christ. However, he finds that the OT provides good and basic eco-ethical instructions and examples, especially the fundamental law of rest.<sup>169</sup> In other words, most Christian eco-ethics and praxis are derived from God's crown in creation, which is the Sabbath and not humanity.

Solomon Victus thinks that humans claim, wrongly, with anthropocentric self-understanding 'supremacy and crownship for being created at the last'.<sup>170</sup> The error in the claim is because, with that self-understanding, we misinterpret the 'dominion' and 'imago Dei' concepts<sup>171</sup> to have the right to do whatever we want to the Earth and all its inhabitants<sup>172</sup> without ethical constraints. It is also palpable from Islamic ecology that only when human hands are restrained with environmental laws that we can desist from diminishing the capacity of the Earth to support life.<sup>173</sup> With ecotheological concern Jürgen Moltmann rightly reverses the concept of the 'crown of creation' from humanity to Sabbath;<sup>174</sup> in my view, that is what the narratives actually present. Hans Schwarz holds the same view arguing that it is rather 'the seventh day as day of rest' and not humanity that was mentioned at the end of creation.<sup>175</sup> Even though Robert W. Godfrey doubts if God being eternal, immutable and impassable can ever tire of creative work,<sup>176</sup> Moltmann believes that creation out of nothing suggests it happened out of God's energy.<sup>177</sup> This means that God necessarily dispensed and

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Accessed 24 May 2015, [http://w2.vatican.va/content/dam/francesco/pdf/encyclicals/documents/papa-francesco\\_20150524\\_enciclica-laudatosi\\_en.pdf](http://w2.vatican.va/content/dam/francesco/pdf/encyclicals/documents/papa-francesco_20150524_enciclica-laudatosi_en.pdf). See also Grim and Tucker, *Ecology and Religion*, p. 166 who report their experience with the Ecumenical Patriarch Bartholomew during expedition to Greenland for a symposium titled 'The Arctic: Mirror of Life' in September 2007. As they (150 international participants) realised how human activities are melting the Greenland ice sheets into the Arctic Ocean, the Eastern Orthodox Church leader outraged 'this is ecological sin' and 'crime against creation.'

<sup>166</sup> Geisler, *Christian Ethics: Contemporary Issues and Options*, p. 333.

<sup>167</sup> Curry, *Ecological Ethics – Introduction*, p. 35.

<sup>168</sup> Sam Berry, 'A Christian approach to the environment', *Transformation: An International Journal of Holistic Mission Studies*, Vol.16, No. 3, July 1999, pp. 73-74 (73).

<sup>169</sup> Geisler, *Christian Ethics: Contemporary Issues and Options*, p. 325.

<sup>170</sup> Victus, *Eco-Theology and the Scriptures*, p. 52.

<sup>171</sup> Curry, *Ecological Ethics*, p. 33.

<sup>172</sup> White Jr., 'Historical Roots of Our Ecological Crisis', pp. 1203-7. See also Curry, *Ecological Ethics*, p. 33.

<sup>173</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 185.

<sup>174</sup> Jürgen Moltmann, *God in Creation: An Ecological doctrine of Creation*, (London: SCM Press, 1985), p. 31. See also Victus, *Eco-Theology and the Scriptures*, p. 50.

<sup>175</sup> Schwarz, *Creation*, p. 169.

<sup>176</sup> Robert W. Godfrey, *God's pattern for creation: A Conventional Reading of Genesis 1*, (New Jersey: P 7 R Publishing Co., 2003), p. 61.

<sup>177</sup> Moltmann, *God in Creation*, p. 31. See also Victus, *Eco-Theology and the Scriptures*, p. 51.

invested but not necessarily exhausted energy nor was exhausted of energy himself in creation as Godfrey imagines. Instead it is a primordial announcing and pointing to an existential fact and truth about ecosystemic life: that energy dissipation and a consequential need for a system of refreshing through rest, is ontological and inevitable. This then is a fundamental biblical principle for eco-ethics.

In other words, the rightful shift in creation crownship from humanity to Sabbath (day of rest) draws significant moral ecological implications. At least, it reminds us to re-read and re-think through the biblical narrative of creation with ecological eyes, thereby realising a scriptural basis for the phenomenon of 'rest' or giving a period of respite in ecosystemic life as a fundamental divine moral ecological establishment to be observed in creation care praxis. It paves the way for ecological ethics, taboos and regulations that ensure rejuvenation and regeneration or re-energising of the ecosystem as against the modern anthropocentric economic view of continuous exploitative usage. This is significant in that the Creator himself observes it, giving further credence to a Christian theocentric worldview in addressing the ecocrisis since it teaches that God is not only the source of Christian values and ethics, but also the good exemplar of praxis. He created, owns and sustains cosmic life by establishing and personally, in Jesus Christ, showing us the aim and right way of observing the principle of sabbatical rest (Matt. 12:1-14; Heb. 4:9). Moreover, observing sabbatical rest acknowledges the holiness of God in creation (Exod. 31:14); thus not complying desecrates God's establishment, an act imputable as doing evil (Isa. 56:2). It is ecological sin.

Norman Geisler outlines a few biblical ecological regulations and their purposes derived from the 'rest' principle as follows: the law of Sabbath rest - for one day out of seven. It refreshes and increase productivity of both life and land (Exod. 23:12); the law of land resting - one out of seven years for fallowing and rejuvenating of land. It prevents over-use and replenishes the land's carrying capacity, that is, leaves plenty for both humans and animals (Exod. 23:10-11); the law of jubilee - returns land to original owners every fifty years. It ensures justice in land possession and avoids exploitation (Lev. 25:23-28); the law of harvesting - intentional discriminate reaping so as to leave some for the poor, alien and animals. It prevents the greedy tendency to rob the land of all its resources, and also cares for the needy humans and animals in the eco-community. This demonstrates God's loving care for creation (Lev. 19:9; Exod. 23:11).<sup>178</sup>

Other eco-ethical principles from the bible include the laws of sanitation - for cleansing food, hands, and utensils (Lev.13-14), quarantine of those with infectious diseases (Lev. 13:9-11), incinerating infectious clothing (Lev. 13:52) and covering excrement (Deut. 23:13). All were to ensure holiness and environmental health by preventing pollution. Then the law of warfare: even in the exigencies of war, life-preserving environment must not be disturbed. Trees may be felled only for essential military services such as building a siege (Deut. 20:19-29); and the law against land greed - since land greed destroys productivity of the land (Ps. 24: 1-10) perhaps because it disregards God's ownership of the land.<sup>179</sup> Michael Northcott explains, for instance, that in Hebrew law and in the New Testament the right to property is not an absolute right but a right derived from God's gift of creation to humans and, in the case of the Israelites, God's gift of the Promised Land to the former Hebrew slaves. Limits on the rights and freedoms of property holders, such as the Sabbath and Jubilee laws, were an expression of the fact that the property holders were not absolute owners of the land but stewards or tenants who held it in trust on behalf of God who gave it to them.<sup>180</sup>

Concluding this chapter I surmise that the religious eco-ethics and impulsions for praxis of creation care analytically reviewed in it suggest that religious ecologies have great

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<sup>178</sup> Geisler, *Christian Ethics: Contemporary Issues and Options*, p. 326.

<sup>179</sup> Geisler, *Christian Ethics: Contemporary Issues and Options*, p. 327.

<sup>180</sup> Michael Northcott, 'Christians, environment and society,' pp. 102-109 (106).

potential to contribute to local and global efforts in resolving the ecocrisis if well reconstructed and practised where appropriate. For instance, the fear of deities and ancestral spirits associated with the precarious worldviews of primal religionists underpins establishing ecological taboos and rituals that restrain human hands against ecological damage. Other practices such as birthing rites have potential of priming even infants for creation care. For Islam and Christianity their theocentric worldviews and theomorphic self-understandings as vicegerents are crucial in their praxis of eco-ethics, which are derived from their holy scriptures. Generally the insight of this chapter corroborates Matthew Clarke's observation that 'religious belief is pervasive, profound, persuasive and persistent in influencing social behaviours.'<sup>181</sup>

However, a relevant question is whether the insights from the review and Clarke's observation can stand modern scientific world views and anthropocentric ecological challenges? The next chapter examines how realistic and effective religious eco-ethics can be in the face of modernity.

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<sup>181</sup> Mathew Clarke, *Development and Religion*, 2011), p. 1.

## CHAPTER 6

### RELIGIOUS ECO-CARE PRAXIS AND CHALLENGES OF MODERNITY

#### 6.1 Reasons for Thinking through Limitations of Religious Ecology

John Grim and Mary Evelyn Tucker argue that because religious ecology 'in the past sustained individuals and cultures in the face of internal and external ecological threats' there is 'a growing consensus that religions may play significant role now also.'<sup>1</sup> In Ghana, for instance, Howell, called on both government and religious bodies, especially Christians, to return to religious engagement with the environment. This call was a response to her observation that 'the spiritual engagement with land and water, once part of the fabric of African spirituality, seems to have become unravelled in our time.'<sup>2</sup> However, Agrawal and Gibson, in an article, express concern that the implications of turning to community practices in eco-preservation amongst people of primal beliefs in the face of modernity are little analysed in most writings on community-based conservation.<sup>3</sup> Implicit in their observation and concern is that there might be significant challenges with employing primal religious ecological ethics, good as they are in themselves, in contemporary times. By extension a similar concern may be raised against the other religious traditions too, and needs be attended to in our quest for a holistic approach to resolving the ecocrisis.

In this chapter I examine some proposed answers to the the pragmatic question: In the face of modern anthropocentric worldviews, economic oriented policies of organisations and scientism in developmental approaches, how realistic are the various religious eco-ethical principles in maintaining impulsion for and effectiveness in caring for creation? This is more so since there is increasing tendency in many African and Islamic cultures to succumb to Western population's characteristic consumeristic attitude and high dependence on science and technology to provide human insatiable needs.<sup>4</sup> The situation is made more serious as developing nations are often compelled by human and economic needs to enforce policies that obviously and grossly lack or are less emphatic about environmental considerations, but anthropocentrically focus rather on economic growth models.<sup>5</sup>

#### 6.2 Some Deficiencies in Primal Religious Eco-Praxis in the Face of Modernity

In Chapter five, I emphasised that the primal African religious eco-praxis is highly influenced by sacralisation of the environment. This in itself is based on Africans' precarious visions of the ecosphere. Hence, ecological actions for harmony in the ecosystem involve

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<sup>1</sup> Tucker and Grim, 'Series Foreword' to *Indigenous Traditions and Ecology*, p. xx.

<sup>2</sup> Allison Howell, 'African spirituality and Christian ministry: 'Discerning the signs of the times' in our environment and community', in The 9th Kwame Bediako Memorial Lecture, at British Council, Accra: Unpublished, 7th June 2017, p. 1.

<sup>3</sup> Arun Agrawal and C.C. Gibson, 'Enchantment and Disenchantment: The role of community in natural resource conservation,' *World Development*, Vol. 27, No. 4 (1999), pp. 629-649 (649).

<sup>4</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis,' p. 88.

<sup>5</sup> Stephen Kofi Avenorgbo, 'Aesthetic Impact of Ghanaian Socio-Cultural Practices on the Environment and Its Protection in Ghana', (Kwame Nkrumah University of Science and Technology, Department of General Arts Studies, Kumasi: Unpublished PhD Thesis, 2008), p. 7.

mainly elaborate rituals and taboos to control human ecological conduct<sup>6</sup> and various deities and ancestral cults, are believed to control how resources must be used.<sup>7</sup> But Ogbu Kalu sincerely doubts if primal religious ethics, although at heart environmentally friendly, can promote a healthy ecological balance. This is because they are weak in or even lack the sustainability suited to modern pressures.<sup>8</sup> Kalu sees veneration of deities associated with ecological entities, for instance, which is a primal cultural ecological coping mechanism, as a vulnerable response. Its ethic is inadequate for replenishment required in modern resource management demanded by population and land use pressures.<sup>9</sup>

Another obstacle is that the absence of any visible retribution of humans who violate eco-rules by deities and ancestral spirits, demystifies the deities, and nullifies the fear-impulsion for creation care. Many community members may become unwilling to cooperate on locally initiated eco-projects,<sup>10</sup> because the impulsion factor - fear of the deities - is no longer there. Demystifying environmental deities may explain why despite growing interest in traditional knowledge systems as means of conserving the environment throughout the world, much of the literature on primal societies and their roles as conservationists cast doubt on the existence of environmental ethics in these societies.<sup>11</sup> Agrawal and Gibson, for instance, observe that scholars of social evolutionary change and modernisation theorists in the nineteenth and twentieth centuries envisioned the disappearance of traditions, religious beliefs and ethics in primal communities. They believe these communities will be replaced by societies characterised by modernity, scientific technologies, and a market economy. However, Agrawal and Gibson contend, rightly, that these are merely views to despoil primal communities as being out of balance with nature, and based on new anthropological and historical research, to suggest that primal communities may not, after all, be practically as friendly to the environment.<sup>12</sup> Evelyn Tucker and John Grim admit that there is 'the dark side' of all religious (and hence primal) ecology, a 'disjunction between theory and practice,' but quickly add that it is not peculiar to religion; it occurs in all philosophies.<sup>13</sup> They mean that sensitive ideas in religions including ecological ones are not always evident in environmental practices in even cultures sympathetic to the environment.<sup>14</sup> However, they believe that the disjunction should not automatically invalidate the complex worldviews and rich cosmologies embedded in primal religions.<sup>15</sup>

Admittedly, primal religious eco-praxis has some potential, at least in terms of past lessons to guide the present, but cannot address all the complicated global ecocrises in our generation. In her Melanesian experience Mary N. MacDonald is certain that their primal cosmology and ecology inform managing ecological challenges, which may offer insight into our present global predicament. However, she avers also that they have limitations; we can

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<sup>6</sup> Kalu, 'Precarious Vision', p. 44.

<sup>7</sup> Kalu, 'The Sacred Egg', p. 236.

<sup>8</sup> Kalu, 'The Sacred Egg', p. 241.

<sup>9</sup> Kalu, 'The Sacred Egg', p. 240. Kalu gives an example of ecological veneration as when one placates a spirit inhabiting a tree to descend for palm wine only to fell the tree behind it. Yet there is no cult to replant, rather it is left unto the god. Kalu considers this practice as one lacking the ethic of ecological replenishment, which cannot cope with modernity.

<sup>10</sup> Kalu, 'The Sacred Egg', p. 241.

<sup>11</sup> Agbanu, 'Environmental Ethics in Mafi-Eve Indigenous Culture', p. iii.

<sup>12</sup> Agrawal and Gibson, 'Enchantment and Disenchantment' pp. 629-649 (Abstract). See also Agbanu, 'Environmental Ethics in Mafi-Eve Indigenous Culture', p. 2.

<sup>13</sup> Tucker and Grim, 'Series Foreword' to *Indigenous Traditions and Ecology*, p. xx.

<sup>14</sup> Mary Evelyn Tucker and John A. Grim, 'The Emerging Alliance of World Religions and Ecology' *Daedalus*, Vol. 130, No. 4, p.3., Accessed: 24/06/2009, <http://www.jstor.org/stable/20027715> [See also Mary Evelyn Tucker and John A. Grim, *Religion and Ecology: Can the Climate Change?* (USA: The MIT Press, 2001), pp. 1-22].

<sup>15</sup> Tucker and Grim, 'Series Foreword' to *Indigenous Traditions and Ecology*, p. xx.



look to them for suggestions, but not expect them to give easy answers to complicated global questions today.<sup>16</sup> Similarly, Tirso Gonzales and Melissa Nelson opine, primal religious eco-ethics may still serve as sources of learning since their ecological ethoi emerged as principles and specific codes, often couched in mythological stories and rules, from past ecologically harmful decisions and experiences.<sup>17</sup> Ogbu Kalu's story about the Amanuke from Nigeria may be insightful here.

In 'The Sacred Egg', Ogbu Kalu narrates a story about how the Amanuke primal community vehemently protested against a World Bank loan supported irrigation project undertaken by the Nigerian government in 1996 without their cultural input. The project would improve agriculture by enabling cropping the year round. But the villagers complained that the forest adjoining the farmland housed their epical ancestral shrine. 'Besides,' they argued, 'if the ancestral progenitors had wanted them to harvest crops year-round, they would have caused the springs which coursed underground to burst to the surface. Ancestors are very loving and usually careful about such things.'<sup>18</sup> I re-interpret and reconstruct some conservation lessons from this. That it is not the practice of their ancestors to provide all-year-round water may represent Amanuke's conservation philosophy for regulating the agricultural production frequency or limiting intensive production to the season when water is available. In this way they would ensure that only subsistent needs were supplied by and in the ecosystem in the right season. The overall eco-effect would include land-fallow and soil nutrient regaining during the off-season period; conservation of food crops by avoiding tendencies for unnecessary over-production, over-consumerism and, hence, prevention of wastage and food insecurity. It might also influence the development of the eco-ethic of hard work since laziness during the water-available season might result in crop failure and hunger. This was a religious eco-belief and practice of ancestral veneration, born out of close local association with nature. It does not provide a modern scientific means, but definitely points to plausible explanation and motivation for moral conservation praxis, resolving human food need and promoting hardwork as eco-ethic. Suggestively global eco-ethical knowledge and praxis necessarily requires local roots, and not the other way round. For, eco-ethics cannot be successfully imposed by diktat or policy; it must be encouraged on the basis of what is ecological and ethical in what people already value, know and do where they are.<sup>19</sup> As Agbanu puts it with regards to teaching of environmental science in academia, a student needs local socio-cultural interaction to provide understanding of the environment and how it functions in historical and traditional context as a foundation for any meaningful scientific ecological knowledge.<sup>20</sup> This means encouraging and engaging students to be practically interested and involved in their local ecologies.

### **6.3 Challenges of Implementing Islamic Religious Ecology in the face of Modernity**

Seyyed Hossein Nasr discusses many obstacles to practising Islamic environmental ethics in the modern world, and goes on to suggest ways in which these obstacles might be

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<sup>16</sup> Mary N. MacDonald, 'Changing habits, Changing Habitats,; Melanasian Environmental Knowledge' in John A. Grim, ed., *Indigenous Traditions and Ecology: The Interbeing of Cosmology and Community*, (USA: Harvard University Press, 2001), p. 592.

<sup>17</sup> Gonzales and Nelson, 'Contemporary Native American Responses to Environmental Threats In Indian Country,' p. 498.

<sup>18</sup> Kalu, 'The Sacred Egg', p. 225.

<sup>19</sup> Curry, *Ecological Ethics*, p. 174.

<sup>20</sup> Harry Kwaku Agbanu, Lecturer, interview in his office at Legon, Department for Study of Religions, University of Ghana, Legon; Monday 23<sup>rd</sup> November, 2015.

overcome. His fears may be sorted and categorised into global and local factors. There are the envisaged strong influences on the Islamic world of science and technology, Western value setting in socio-economic agenda affecting the environment, and both modern and fundamental Muslims preferring and promoting western science against Islamic science, at the global level. Local level factors include governments opposed to Islamic environmentalism, Islamic revivalists not emphasising environmental concerns, lack of ecological awareness and preparation of the *ulamā* or traditional scholars who are custodians and preachers of Islam to the masses, as well as migration and urbanisation. In the latter case he explains that the city immigrants tend to lose their pre-migration rural ecological instincts due to urgency of urban survival matters.<sup>21</sup>

This is not different from observations in Ghana, especially at Sokpoe ecological area. Asked why rural Muslims tend to drop their environmental ethos when immigrated to city *zongos* (Islamic eco-communities), Hajia Sanni Fatti from Sogakofe zongo blames it on lack of an adequate ecologically-minded upbringing, daily busyness for survival that leaves no time for personal and environmental care and sheer laziness.<sup>22</sup> On her part, in a separate interview, Hajia Hawusatu Eleas who had witnessed such a situation in Nima, a suburb of Accra, believes that it also results from eco-cultural influence, due to the conglomeration of different ethnic migrants, with cultures that lack good ecological ethos rather being more influential.<sup>23</sup>

The characteristics of cultural heterogeneity of zongo eco-communities presents another significant challenge to Islamic eco-ethical praxis as observed in rural zongo eco-communities in the Sokpoe area, and which perhaps is intensified in city zongos. It is the question of a possible psycho-social effect on Muslims' self-understanding of belonging to 'zongo'. According to the Sogakofe zongo chief, Alhaji Abdullah Muhammad, the Hausa word 'zongo' connotes the idea of a resting place for Muslim strangers on a continuous migratory journey, particularly by trekking. This makes members of a zongo community tend to perceive themselves as strangers, mere visitors, passers-by who are not necessarily part of the town of settlement. Thus irrespective of duration of stay they tend to distance themselves from the indigenes culturally by referring to them as '*dutowo*' (owners of the town); a people to whom the Muslims do not belong by their way of life.<sup>24</sup> Meanwhile, Imam Ali of Dabala-Junction-zongo observes that apart from the Islamic religious link, there is a high propensity for the different ethnic groups and even individuals not to integrate but to insistently maintain the culture and ecological ethos of their home of origin. As he puts it:

In a zongo, people from different places come with their home cultural mind-sets and converge at one place. Each tends to behave according to his/her cultural self-understanding, creating very little room for cultural integration or compromises and mutual respect. The lingual differences of Hausa, Frafra, Dagati and Zamramra further worsen the weak mutuality situation in the zongo.<sup>25</sup>

In short, there is a high tendency to resist feeling inferior to another eco-cultural group. My contention is that the result of the seemingly sense of 'not belonging to the land of the indigenes' and 'tendency for cultural independence' and 'resisting social inferiority' is an indictment for having an ecologically passive attitude and behaviour. And the situation worsens in city zongos because, as Hajia Hawusatu Elias laments, it poses challenges for

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<sup>21</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis', pp. 87-93.

<sup>22</sup> Hajia Sanni Fatti, interview at Sogakofe, 14 April 2016.

<sup>23</sup> Hajia Hawusatu Elias, interview at Sogakofe, 12 April, 2016.

<sup>24</sup> Alhaji Abdullah Muhammad, (zongo sarachi), interview at Sogakofe, 5 April, 2016.

<sup>25</sup> Imam Alhaji Ali, interview at Dabala Junction, 17th May 2016 (See appendix A3 for transcription)

mobilising and depending on communal spirit in cleaning the environment compared with that of village zongos.<sup>26</sup> David Bookless argues that unless we feel grounded in a land of birth or domicile it is difficult to be motivated to involve oneself in creation care praxis.<sup>27</sup>

Muslims are enjoined by the Qur'an to rely on natural instinct to care for creation.<sup>28</sup> However, the apparent prevalent psycho-social problems - lack of cultural cohesion and non-cooperation - in 'zongo' life analysed above may render this expected primordial environmental endowment less effective. Sharing of positive eco-praxis is weak; and the situation is worsened by the fact that pragmatic efforts to raise serious Islamic ecological concerns among Muslims have been generally insufficient in the Muslim world until only the last three decades (1980s).<sup>29</sup> The same reason of lately raising eco-concerns seriously in Islam could be advanced for the poverty in the eco-education of *ulamas*. Yet Nasr blames it on Islam's attention and energy being directed in defending the religion against Christian and secular intrusions during the past two centuries.<sup>30</sup>

Nasr's suggestions for the way forward emphasise both formal and informal ecological education at all levels and academic disciplines. This includes the *madāris* or traditional training institutes for religious leaders. The eco-educational curricula or sermons of *imāms* in his view should have objectives and contents that can erase and replace the modern scientific worldview with the Islamic worldview.<sup>31</sup> Nasr hopes that in the end, Muslims at all levels who are committed practically to promoting Islamic ecology may be motivated with local, national and international awards.<sup>32</sup> This underscores my proposal for an African Theology curriculum to serve missional purposes in higher educational institutes in Ghana, drawing on shared experiences from Primal, Islamic and Christian religions.

#### 6.4 Some Limitations of Christianity for Eco-Praxis in Modern Times

The emphasis running through this thesis is what Simon Victus opines that Christian theocentrism may be an all inclusive ideology to address the ecological concerns of and questions arising from other views.<sup>33</sup> Yet such an assertion raises pragmatic questions bordering on Christian eco-heritage and conflicts in the relation between modern scientific and religious views in ecological studies. Mary Tucker and John Grim's caution becomes instructive: that we do not underplay the negative shadow side or claim too much of religions' potential for ethical persuasiveness.<sup>34</sup>

Indeed, in the literature, Christianity's ecological heritage, especially from the West, casts a negative shadow on its potential as a religion for promoting progressive creation care praxis in the (post)modern world. For instance, Lynn White's labelling of Christianity in the mid-twentieth century CE as the most anthropocentric religion and the primary historical

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<sup>26</sup> Hajia Hawusatu Elias, interview at Sogakofe, 12 April, 2016.

<sup>27</sup> Bookless, *Planetwise*, p. 50.

<sup>28</sup> Chishti, '*Fitra: An Islamic Model for Humans and the Environment*', p. 67.

<sup>29</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis', p. 86.

<sup>30</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis', p. 86.

<sup>31</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis', pp. 100-102.

<sup>32</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis', p. 103.

<sup>33</sup> Victus, *Eco-Theology and the Scriptures*, p. 120.

<sup>34</sup> Mary Evelyn Tucker and John Grim, 'Series Foreword' to Richard C. Foltz, *et al.*, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), p. xx.

cause of ecological crisis, based on Gen. 1:26-28, has been variously criticised.<sup>35</sup> However, Patrick Curry observes that up to now the 'White Thesis'<sup>36</sup> has 'so far been *commonly and influentially understood* by those who want to understand it that way.'<sup>37</sup> Moreover, it appears the first or commonest reference in literature any time the negative Christian ecological heritage is mentioned. Thus the notion of the 'White Thesis' may pose pragmatic challenges to applying Christian ideas to resolving ecological issues in the modern secularised world. This calls for Christian responses without denying but appropriately identifying causal sources of the accusations for attention in the quest for effective creation care praxis.

To White's conviction that Genesis 1: 26-28, gives humans the right to do whatever they want to the Earth, Patrick Curry echoes the Christian response that 'other very different interpretations of the Bible are possible.'<sup>38</sup> Christian theological reconstruction is occurring extensively across the globe.<sup>39</sup> The theological reconstruction process admittedly recognises the earlier inaccurate interpretations of biblical texts and themes, particularly with modern scientific discoveries about the physical universe. The process involves retrieving, re-evaluating and reconstructing new contextual understandings that suggest theocentrism rather than anthropocentrism being the actual biblical presentation of the God-creation-human relations. Grim and Tucker report, for instance, on 'the Harvard Project', a 'ten-part conference series on World Religions and Ecology' organised from 1996-1998 at the Harvard Centre for the Study of World religions.<sup>40</sup> These conferences and the volumes of books resulting from them acknowledge both the problems and promises of religion, and hence, Christianity in caring for creation.<sup>41</sup>

Generally the reconstructed Christian worldviews are promoting change in the role of humanity in creation from masters and managers to morally responsible participant vicegerents, in the manner of the second Adam, Jesus Christ. The current thesis itself is an

<sup>35</sup> For criticisms on Lynn White's 'Thesis' see Gregory E. Hitzhusen, 'Judeo-Christian theology and the environment: moving beyond scepticism to new sources for environmental education in the United States', *Environmental Education Research*, Vol. 13, No. 1, February 2007, pp. 55–74

W. Berry, 'God and country', in: *What are people for? Essays by Wendell Berry* (New York: North Point Press, 1990); P. Ester, & B. Seuren, 'Religious beliefs and environmental attitudes: an empirical test of the Lynn White hypothesis in fourteen nations,' *Sociale Wetenschappen*, Vol. 35, No. 1, 1992, pp. 20–39; M. W. Foley, 'Who cut down the sacred tree? Replying to Lynn White, Jr's popular thesis that christianity is the root of all environmental evil,' *The CoEvolution Quarterly*, Vol. 15, 1997, pp. 60–67; L. Moncrief, 'The cultural basis for our environmental crisis: Judeo-Christian tradition is only one of many cultural factors contributing to the environmental crisis,' *Science*, Vol. 170, No. 3957, 1970, pp.508–512; Y. F. Tuan, 'Our treatment of the environment in ideal and actuality,' *American Scientist*, Vol. 58, No. 3, 1970, pp. 247–249 (244); Curry, *Ecological Ethics*, p. 33.

<sup>36</sup> Hitzhusen, 'Judeo-Christian theology and the environment', p. 58.

<sup>37</sup> Curry, *Ecological Ethics*, p. 34. Italics is in the original text.

<sup>38</sup> Curry, *Ecological Ethics*, p. 33.

<sup>39</sup> See for example the works of John A. Grim and Tucker, Mary E., *Ecology and Religion*, (Washington D.C.: Island Press, 2014); Solomon Victus, *Eco-Theology and the Scriptures: Revisit of Christian Responses*, (New Delhi: Christian World Imprints, 2014); Craig Sorely, 'Christ, Creation, Stewardship and Missions: How discipleship into a biblical worldview on environmental stewardship can transform people and their land', *International Bulletin of Missionary Research*, Vol. 35, No. 3 (July, 2011). p. 137; Celia Deane-Drummond, *Eco-theology* (London: Darton, Longman and Todd Ltd., 2008); David Bookless, *Planetwise*, (UK, Nottingham: Intervarsity Press, 2008); Jonathan J. Bonk, 'Mission and the groaning of Creation,' *International Bulletin of Missionary Research*, Vol. 32, No. 4, October 2008, p. 170; Michael Northcutt, *A Moral Climate: The Ethics of Global Warming* (London: Darton, Longman and Todd Ltd., 2007); Chris J. Wright, 'Theology and Ethics of the Land', *Transformation*, Vol.16, No. 3, (1999), pp. 81–86; Richard A. Young, *Healing the Earth: A Theocentric Perspective on Environmental Problems and Their Solutions*, (US: Broadman & Holman Publishers, 1994); Jürgen Moltman, *God in Creation: An Ecological doctrine of Creation*, (London: SCM Press, 1985); Rachael L. Carson, *Silent Spring*, (New York: Mariner Books, 1962).

<sup>40</sup> Grim and Tucker, *Ecology and Religion*, p. 6.

<sup>41</sup> Grim and Tucker, *Ecology and Religion*, p. 8.

example. It is set out to contribute an African contextual aspect of reconstructing Christian theology, but with the shared perspective of both the Primal and Islamic religious traditions in Africa. In addition, writing in the late twentieth century, Gordon Wenham observed that Western Christian theological books and ethics said hardly anything about the environment.<sup>42</sup> Now in the twenty-first century, volumes of Christian theological books are being produced in the West as a result of scores of studies, conferences and projects of pro-creation-care.<sup>43</sup> Even Lynn White pointed out that Judaeo-Christian culture has a tradition of caring for nature. He recommends St. Francis of Assisi as an inspiration and patron of all environmentalists<sup>44</sup> and so 'has sought a solution within the Christian tradition itself.'<sup>45</sup>

Furthermore, though Lynn White blames Christians alone for the anthropocentric approaches which have created the ecological crisis,<sup>46</sup> Curry's response is that 'pre-Christian humanity also engaged in many bouts of ecological destructiveness - mass felling of forests, the hunting of some megafauna to extinction, etc.' Additionally, he says 'non-Christian people also have done the same' destruction of creation.<sup>47</sup> Richard Young agrees that the degradation of the environment began long before Christian era. He mentions various examples including Native Americans, not influenced by Christianity, who killed eagles and herds of buffalo merely to respectfully make their traditional headdresses and eat their tongues.<sup>48</sup> Young then concludes that 'it is obvious that the root cause of ecocrisis lie elsewhere.'<sup>49</sup> Could the 'elsewhere' be a cultural deficiency in fallen humanity and only magnified with inaccurate interpretation of the bible by the nineteenth century Christians in the West? Norman Geisler argues, rightly, that the root of eco-injustice, for instance, is not lack of education but moral bankruptcy,<sup>50</sup> which I believe can be dealt with more effectively with religion, especially faith in Christ.

Curry further alludes that 'the ecocrisis didn't really gather pace until the industrial revolution in the nineteenth century'.<sup>51</sup> He means that the Church's contribution to ecocrisis may not be denied, yet not the church *per se*, but rather the industrial revolution maximised the rate into existential significance, at a time when the West was secularised.

Another negative label on the Christian eco-heritage is what Richard Young notices as the attitude of some Christians he calls 'reframers' rather than 'reformers'. The former rejoice over ecocrisis and the decaying of the Earth, because to them it fulfils apocalyptic parts of the bible in their own time as a 'sign' that Christ's second coming is at hand. For them ecocrisis is thus not a bother nor should it be, because God has enough resources for the Church to use in propagating the Gospel to the end of the age according to Mt. 24, Mk.13 and Lk.21.<sup>52</sup> However, it may be argued that even if cosmic cataclysms fulfil prophecies about the Lord's Second Advent that fact is not itself a biblical injunction to humans not to fulfil their vicegerency vocation as *imago Dei*. As much as cosmic perturbations will signal the second advent there is nothing in the scriptures suggesting that Christians could not remain faithful in

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<sup>42</sup> Gordon Wenham, 'The Old Testament and the Environment: A response to Chris Wright,' *Transformation -An international Journal of Holistic Mission Studies*, Vol. 16, No. 3 (July/September 1999), p.86.

<sup>43</sup> As examples of western Christian theological works in 21st century see Grim and Tucker, *Ecology and Religion*; Sorely, 'Christ, Creation, Stewardship and Missions'; Bookless, *Planetwise*; Bonk, Jonathan J., 'Mission and the groaning of Creation'; Northcutt, *A Moral Climate*.

<sup>44</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 41.

<sup>45</sup> White Jr., 'Historical Roots of Our Ecological Crisis', pp. 1203-7.

<sup>46</sup> Victus, *Eco-Theology and the Scriptures*: p. 18.

<sup>47</sup> Curry *Ecological Ethics* p. 33.

<sup>48</sup> Young, *Healing the Earth*, p. 31.

<sup>49</sup> Young, *Healing the Earth*, p. 31.

<sup>50</sup> Geisler, *Christian Ethics, Contemporary Issues and Options*, pp. 317-318. Italics on 'all' emphasis mine to imply both the spiritual and physical.

<sup>51</sup> Curry *Ecological Ethics*, p. 33.

<sup>52</sup> Young, *Healing the Earth*, p. 18.

their role as ecological vicegerents (I Cor. 4:1-2). Biblically, no matter what anthropogenic damage and desecration is caused to it, creation is looked and seen as good by (the Son of) God who sustains and cares for it. Scripture indicates that it is the decaying creation, just like the decaying sinful humanity, that the Lord died for and is re-creating through his redeeming work on the cross alongside the redemption of the causers of the decay, humanity (Rom. 5:8; 8:21). If humans choose to be faithless he remains faithful to his good creation. He initiated steps to save all creation - human and nonhuman (Ps. 36:6b).

I perceive yet another major challenge to Christian creation care praxis in modern times; it is what I call 'the fact-faith conflict' being the argument of some students against inclusion of some biblical texts in an undergraduate environmental science class in Presbyterian University College, Ghana in 2010. As earlier indicated in Chapter 1 of this thesis, the students regarded the environmental science as purely a science subject for which they had paid; and not to be interrupted with religious morals for which they did not pay. Their notion that fact and faith do not agree implies science and religion are incongruous and not integral. The students' reaction appears to be similar to a materialistic worldview that undergirds modern scientific approaches to ecology, seen as conflicting with a Christian theocentric worldview. Norman Geisler sums up the materialistic worldview with these words: 'after denying a Creator and a distinctive spiritual aspect in human beings, it affirms unbounded optimism in humans' ability to solve their own problems.'<sup>53</sup> Specifically, the materialists or scientists see the physical world as eternal, uncreated and its resources unlimited, based on the first thermodynamic law that energy can neither be created nor destroyed. Geisler answers that this first law is not about the origin, but the constancy of energy in the universe. However, the second thermodynamic law implies Creator for creation since it acknowledges that usable energy in a closed, isolated system such as the universe is decreasing. That which decreases cannot be eternal, it must have first increased from some origin - God, in Christian theocentrism. Then in that vein physical resources are also limited.<sup>54</sup>

Additionally, a materialistic or scientific worldview insists that with 'technoscience' humans can solve almost any problem (ecological ones included); and that global education can correct economic 'maldistribution' to ensure eco-justice.<sup>55</sup> Geisler rightly objects to these assertions, because even with technoscience we cannot predict *all* relevant information to solve *all* our life problems; nor can we completely eliminate errorless deductions from what we know. Moreover, the root of eco-injustice is not lack of education but moral bankruptcy.<sup>56</sup> Without under-rating the value of education, especially in addressing the ecocrisis, Cephias Narh implies from historical fact that knowing the good does not necessarily end in doing the good. With several examples globally, he asserts most of the men and women who have caused untold hardship to society in our earthly home are very well educated and learned.<sup>57</sup>

I agree with Curry's perspective that the Christian theocentric worldview and ecology do not 'deny that science can supply us with very important truths, nor that it has a rightful place in our ongoing [eco-]cultural conversation.' It is not 'anti-science', rather 'anti-*scientism*': the modern cult of science, according to which science is not one way of being among many but the *only* valid or true one.<sup>58</sup> Perhaps *scientism* is what my students meant in thinking that

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<sup>53</sup> Geisler, *Christian Ethics: Contemporary Issues and Options*, p. 315.

<sup>54</sup> Geisler, *Christian Ethics: Contemporary Issues and Options*, pp. 316 and 318.

<sup>55</sup> Geisler, *Christian Ethics: Contemporary Issues and Options*, pp. 316-317.

<sup>56</sup> Geisler, *Christian Ethics: Contemporary Issues and Options*, pp. 317-318. Italics on 'all' emphasis mine to imply both the spiritual and physical.

<sup>57</sup> Narh, *Moral Linkage in Learning*: pp. 2, 4, 6.

<sup>58</sup> Curry *Ecological Ethics*, p. 25. Italics in the original text.

'fact' and 'faith' are incongruous, cannot and must not be integrated. Yet Geisler rightly concludes that 'Our ecological system will not be transformed until our ethical system is changed for the better. After all, it is people who are abusing the environment. Hence, we must transform people before we can hope to transform our environment for the better.'<sup>59</sup>

I have contended earlier that teaching science without a mindset to induce moral transformation and responsibility for keeping our Earth is only half-accomplished mission,<sup>60</sup> and a dangerous one at that, because of possible negative effects on the student. Each student as a human in higher education is either a potential conserver or a threat to our environment, perhaps more than the lower educated or non-educated, dependent on the responsiveness in using the higher knowledge gained. The tension between being a threat to and conserver of Earth at higher educational level is perhaps more pronounced in the case of science students. As an illustration, computer science graduates from Christian higher institutions managing computer hardware firms, having learnt from environmental science that the Earth is the sink for waste products, may be the first to pollute the environment indiscriminately with their dangerous computer wastes. Or young Ghanaian chemical engineers who operate *galamsay* (illegal small scale mining) with their expertise are threat to polluting our water bodies. The agricultural scientist, who out of the impoverishment of soil and inland water for food and fish production uses uncontrolled or improperly regulated inorganic substances, is a threat.

Data analysed in my current research discovers a possible danger of infertility looming over the heads of women in the research area if they continue drinking water from the river in which also tilapia farming is in progress. The reason is that, as I am told, the farmers use a certain hormone (an androgen called 17 $\alpha$ -methyl-testosterone) to 'unisex' the fryers so as to gain earlier market weight at lower cost.<sup>61</sup> I surmise that logically a hormone that turns female fish to male may likely render a woman infertile as an accumulated residual effect. Some of the participating farmers in the study seem to be aware of such possible danger.<sup>62</sup> They protect themselves from possible impotency by wearing rubber hand gloves and strict attention to hand washing with carbolic soap.<sup>63</sup> But the unsuspecting girls living down-stream drink and wash with that water unawares and without any protection. On 7th June 2017, Prof. Frimpong Boateng, the Ghanaian Minister of Environment, Science and Technology in response to the 'Kwame Bediako Memorial Lecture' indicated that he similarly feared possible residual effects of agro-toxins on both human and nonhuman life in most of the Ghanaian ecological areas. He noted particularly the gradual reduction in vulture populations in Ghana as a possible consequence of residual agro-toxins.

Thus although, in practice, there are some limitations with religious ecology, yet there are also significant reasons for its engagement in creation care praxis. Both Christian environmentalists and holistic institutions, therefore, need to advocate for this engagement at all plausible levels of the population and vocations. In Ghana, as I shall indicate in chapter seven, the Presbyterian University College, Ghana (PUCG), for instance, pursues environmental sustainability education through the academic study of Environmental Science as a mandatory interdisciplinary subject. Among others, the expectation is to promote Christian environmentalism.

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<sup>59</sup> Geisler, *Christian Ethics: Contemporary Issues and Options*, p. 319.

<sup>60</sup> Blasus, 'Our Earth, Our Responsibility,' pp. 254-268.

<sup>61</sup> Edem Agbattor, interview at Sokpoe-Vogome, 24 February 2016.

<sup>62</sup> Mathew Agbattor, interview at Sokpoe-Vogome, 24 February 2016

<sup>63</sup> Wisdom Kwame Blasus, interview at Sokpoe Bodzodjife, 28 March 2016.

## CHAPTER SEVEN

### STUDYING ENVIRONMENTAL SCIENCE IN CHRISTIAN HIGHER EDUCATION AS STRATEGY FOR HOLISTIC MISSION AND MORAL EDUCATION: THE CASE OF PRESBYTERIAN UNIVERSITY COLLEGE, GHANA

#### 7.1 The Purpose of University as a Higher Education Institute

Mounting a mandatory Environmental Science at the Presbyterian University College, Ghana (PUCG) was a response to the founding Presbyterian Church of Ghana (PCG)'s quest to promote Christian missional environmentalism at higher education level. Questions about the fulfilment of this quest in the first decade of the university, together with other related questions are what this chapter seeks some answers to, beginning with the purpose of a university.

From the beginning of and largely throughout the twentieth century, secular educationists universally acknowledged that the purpose of education, especially formal education at tertiary levels, is to train 'human resource' by creating knowledge as the necessary power for development.<sup>1</sup> However, with no prejudice against creation of knowledge for development, Gerald J. Pillay observes, that such understanding and praxis of higher education is narrow; and that because of it by the end of the twentieth century universities had come to model themselves on business enterprises. Something was lost in the process: the wholeness of the notion of a *universitas*.<sup>2</sup> Noting that historically higher education has been largely the province of the church since beginning in the third century CE until secularisation in the nineteenth century CE, Pillay strongly hopes for Christian foundations and Christian academics in higher education to take responsibility to restore<sup>3</sup> the missing link - what George Marsden calls 'the soul of the university.'<sup>4</sup> This implies that universities established by Christian churches need to offer something different, of higher value and be alternative communities to the public secular universities in the twenty first century. Moreover, among others, the qualitative difference envisioned will depend on the philosophies and pragmatic policies formulated by the churches or Christian foundations to guide their Christian higher educational services. The Presbyterian University College, Ghana (PUCG) was born out of a policy of the Presbyterian Church of Ghana (PCG) to run a private holistic Christian higher education.

#### 7.2 PUCG: A Private Christian University with Holistic Mission and Moral Transformation Mandate

Gerald Pillay observes that the freedom to establish independent private higher institutions and to fund them through church communities and benefactions is not common in Anglo-Saxon world (including Ghana, in the first decades after independence) as in the US.

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<sup>1</sup> Kofi Sraku-Lartey, 'A brief History of the University,' in *Maiden Matriculation and Official Opening Ceremony, Asante Akyem Campus*, (Abetifi: Registrar's department, 2008), p. 7.

<sup>2</sup> Pillay, 'Education as Mission', p. 173.

<sup>3</sup> Pillay, 'Education as Mission', p. 173.

<sup>4</sup> George Marsden, *The Soul of the American University: From Protestant Establishment to Established Nonbelief*, (NY: Oxford University Press, 1994). See also Holmes, *Building the Christian Academy*, p. 1.



This has been because in the 'Anglo-Saxon world', and hence, Ghana, there is the assumption that 'education, like health care, is a government responsibility.'<sup>5</sup> Thus, in Ghana private universities, particularly by churches had not been established until about the last three decades of the twentieth century. Gillian Bediako believes that the emergence of private tertiary institutions is to supplement the efforts in the provision of education at that level; and that churches being historically initiators of education were among the new 'providers' of higher education.<sup>6</sup> The Presbyterian Church of Ghana (PCG), a primary mover of education in the country, established the Presbyterian University College, Ghana (PUCG) as its second private Christian higher institution in November 2003<sup>7</sup> in accordance with the historical educational policy of the church.

Presbyterian education was in the beginning a strategy for holistic mission, a means to respond with the Gospel or Kingdom principles to the spiritual, physical and economic needs of people. It was also for transforming and forming a total person, 'develop[ing] an all-round personality'.<sup>8</sup> Holism deals with the whole person as an individual and as a group of people.<sup>9</sup> PCG's mission and transformational education as development was undergirded by the vision of training 'a mind to do critical analysis of issues; a heart to love [God] and do what is morally right and a hand that works hard to harness the resource of the [environment] for development.'<sup>10</sup> To this end the educational philosophy of the church outlined eight focal or thematic areas to be emphasised in Presbyterian institutions:

knowledge of God; moral and character training; religious tolerance; human virtues [or life values] promotion; intellectual knowledge, skills and technology; civic responsibilities; holistic [or transformational] development principles and environmental cleanliness [and responsibility].<sup>11</sup>

Thus, since the early beginnings of PCG, evangelism and the establishment of educational institutions were considered as one and the same mission of the church. The products from Presbyterian educational institutions, the basic, secondary, training colleges and seminaries, over the years reflected the ethical and professional discipline that was consistent with the Presbyterian faith and way of life.<sup>12</sup>

However, 'this desirable functional identity of both the Presbyterian educational institutions and their products have become increasingly compromised'<sup>13</sup> and had virtually died out not only from the educational institutions, but also the general societal life by the close of the twentieth century CE.<sup>14</sup> Kofi Sraku-Lartey believes this occurred because the colonial government took over formal education in the twentieth century, and replaced

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<sup>5</sup> Pillay, 'Education as Mission', p. 173.

<sup>6</sup> Gillian Mary Bediako, 'Christian universality, Christian scholarship and Institution building - Kwame Bediako on a vision in process', in Gillian Mary Bediako, Benhardt Y. Quashie, and J. Kwabena Asamoah-Gyadu (eds.), *Seeing new facets of the diamond - Christianity as a universal faith: Essays in honour of Kwame Bediako*, (London: Regnum Africa, 2014), p. 364.

<sup>7</sup> The first one is a postgraduate academy called Akrofi-Christaller Institute of Theology, Mission and Culture (ACI); established in 1987 at Akropong-Akuapem, with the late Rev. Prof. Kwame Bediako as the lead founder and first Rector. See Presbyterian Church of Ghana, 'Policy Document on General Education', (Accra: Presbyterian Press, 2015), p. 59.

<sup>8</sup> PCG, 'Educational Philosophy of the Church,' *Policy on General Education*, p. 14.

<sup>9</sup> Bangladesh II-3, 'Dimensions of Integral Human Development', p. 2.

<sup>10</sup> PCG, 'Educational Philosophy of the church,' *Policy on General Education*, p. 14.

<sup>11</sup> PCG, 'Educational Philosophy of the Church,' *Policy on General Education*, pp. 13-14.

<sup>12</sup> PCG, 'Rationale for PCG Educational Policy', *Policy on General Education*, p. 16.

<sup>13</sup> PCG, 'Rationale for PCG Educational Policy', *Policy on General Education*, p. 6.

<sup>14</sup> A. A. Beeko, 'Radiating the rays of Discipline - The role of Presbyterian Church of Ghana', In: *Uprooting Thorns of Indiscipline*, (Accra: Public Relations Unit, PCG, (2003), pp. 19,20

missional with secular education, influenced by modern trends that do not necessarily aim at formative but mainly utilitarian education.<sup>15</sup> The Christian churches, including PCG, responded by establishing private university colleges. Gillian Mary Bediako explains that since the new institutions are seeking to augment the same kind of educational opportunities as are available in limited supply in the public institutions, they designate themselves 'university colleges': institutions on the way to becoming universities.<sup>16</sup> As a matter of fact, it is actually a requirement of the National Accreditation Board until they gain full independent accreditation. Moreover, PCG established Presbyterian University College, Ghana (PUCG) not just to augment public higher education, but more importantly it hopes to revive, now at tertiary level, its holistic transformational education of the nineteenth century that had functioned only at pre-tertiary level, until the twenty-first century.

This was at a time when it became obvious that '[a]ccess to education at all levels is becoming hard to come by, and not easily affordable to the average worker'.<sup>17</sup> Moreover the standard of scholarship in the country was generally considered as relatively unsatisfactory 'morally and academically'.<sup>18</sup> In PUCG's *Handbook and Students Guide 2013* the conception of the institution is explained as:

[PUCG] is conceived as a response to the challenge presented by the...perceived lowering of academic standards and the erosion of moral and ethical values in the Ghanaian Society. It will relate its programmes to the developmental needs of Ghana in the 21st century, in terms of training, research, extension and service. It will identify and fill important niches in the development of higher education in the country.<sup>19</sup>

In the first '*10-Year Strategic Plan - 2003-2013*' document of the Presbyterian University Implementation Committee (PUIC), Alfred Kwasi Opoku, the PUIC's technical fcilitator,<sup>20</sup> expounded on the vision of the university. In Opoku's report, the PUIC stated categorically that 'PUC (sic) must be *unique*...developing the total [person]', who 'should qualify as academics and social beings based on Christian principles.' In short, 'PUC aims at re-producing the proverbial disciplined Presbyterian scholars of yester-year whose match is lacking in the present day Ghana.'<sup>21</sup> Impliedly, the 'Presbyterian discipline' may be assumed and expected to be reflected also in the the moral environmental attitude of undergraduate students.

<sup>15</sup> K. Sraku-Lartey, Foreword to E. Y. Blasu (ed.), *Inside Out: A devotional Guide for PUCG Students and teachers*, (Accra: Presbyterian Press, 2012), p. i.

<sup>16</sup> Bediako, 'Christian universality, Christian scholarship and Institution building', p. 364.

<sup>17</sup> Martey, 'Foreword' to *Policy on General Education 2010*, p. v.

<sup>18</sup> PCG, 'Rationale for PCG Educational Policy,' *Policy on General Education*, p. 17.

<sup>19</sup> PUCG, *Handbook and Students Guide*, Revised 2013, (Atlanta, USA: Tyme Impression Ltd., 2010, 2013), p. 3.

<sup>20</sup> Alfred Kwaku Opoku, fcilitator, *Presbyterian University College, Ghana: A 10-Year Strategic Plan*, (Accra; Presbyterian Press, 2003), p. 2. The Presbyterian University Implementation Committee (PUIC) was a body of educational technocrats set up in 1998 by the Synod of PCG, charged with the responsibility of establishing a university for the Presbyterian Church of Ghana. The PUIC organised a consultative workshop in March 2003 where the 10-year strategic plan for the university was outlined. Mr Alfred Opku was a planner and member of the Hope congregation of the PCG, Tema, He facilitated it. The thirteen participants were technocrats that could speak to various significant issues that the church needed to address in starting a mission university. They included clergy, educationists, administrators, traditional rulers, financiers and gender activists appointed by the church for the task. Specifically, the plan aimed at and did 'formulate a package of strategies that will guide the successful take off and sustainable growth of the University.' This package was based on the prevailing socio-economic and political context of the country in relation to establishing a university; the financial capacity of PCG then to fund a university; and analyses of the strength, weaknesses, opportunities and threats for establishing the University.

<sup>21</sup> Opoku, PUCG, *A 10-Year Strategic Plan*, p. 4. Italics emphasis is mine.

### 7.3 Presbyterian Educational Policy and Studying of Environmental Science at PUCG

As stated earlier PUCG's mandate to mount Environmental Science is a quest to produce the 'all-round personality'<sup>22</sup> or scholarship that could fit in society as 'disciplined leaders' in accordance with the institutional vision, crafted from the PCG educational policy. The vision of the Presbyterian University College, Ghana, is that

[PUCG] is an institution that blends academic and professional excellence with an appreciation of cultural, technological, environmental and globalisation trends in those who pass through it that their lives reflect Christian principles and values of love, compassion, honesty, selflessness and humility among others.<sup>23</sup>

The vision statement implies that students pursuing any academic and/or professional studies at PUCG need to blend their courses with such Christian principles and values that may motivate responding to trends of environmental issues. Responding to environmental issues with Christian understandings is what the Anglican Communion regard as striving to safeguard the integrity of creation, sustain, and renew the life of the Earth; and they refer to it as the fifth mark of global mission.<sup>24</sup> Similarly, the Presbyterian Church of Ghana, although it does not explicitly define 'integrity' in terms of the environment, yet it lists 'integrity' as a mission value. For the church, 'integrity' as a value applies to all that in the Church's mission needs be kept integral, including keeping the integrity of our God-given environment. In Andrew Walls and Cathy Ross's edited *Mission in the 21<sup>st</sup> century*, Calvin DeWitt contributes to the discourse on safeguarding the integrity of creation. He believes that creation is a symphony of material and life cycles gifted to us by God; and that we as stewards with divine appointment are to sustain and renew life on Earth as part of God's mission (*missio Dei*) into which he called us since Adam's time in Eden.<sup>25</sup>

It is with a similar sense that PCG would expect its university, established to be its strategic avenue for mission at higher educational level, to impart the science and art of environmental responsibility in forming all-round disciplined leaders. In addition, the founding fathers envisioned the need for environmental science also in view of the types of programmes the university would be offering, and which may have some relations with the increasing environmental challenges and threat to human life on Earth. Academic programmes such as Information, Communication Technology, Allied Health and Medical Sciences, Agribusiness, and Business Administration certainly may be potential contributors to environmental health and/or hazards, depending on the objectives, contents, how students understand and apply them. In other words, a significant number of the environmental threats to terrestrial life may result from our application, (or rather misapplication), of the cultural and technological knowledge gained from education, apart from increasing population. Michael S. Northcott observes that

Through technology and economic and political artifice, and because of growth in the human population, the powers of modern humanity have grown to the point that humans are now the strongest biological force on earth. But these new powers have not been accompanied by a growth in moral responsibility for the condition of the planet...On the

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<sup>22</sup> PCG, *Policy on General Education*, p. 4.

<sup>23</sup> PCG, 'Tertiary Education delivery,' *Policy on General Education*, p. 60.

<sup>24</sup> Cathy Ross, 'Introduction' to Andrew Walls & Cathy Ross, (eds.) *Mission in the 21<sup>st</sup> Century - Exploring the five marks of global mission*, (Maryknoll: Orbis books, 2008), p. xiv.

<sup>25</sup> Calvin B. DeWitt, 'To strive to safeguard the integrity of creation and sustain and renew the life of the Earth (1)', in Walls & Cathy Ross, eds. *Mission in the 21<sup>st</sup> Century*, p. 84.

contrary, as technology has heightened human power over nature, modern humans are increasingly alienated from the earth and their fellow creatures...People are therefore increasingly poorly equipped - ecologically, morally and politically - to deal with the consequences and dangers of these enlarged powers both for the earth and for human wellbeing.<sup>26</sup>

Northcott points out, in this passage, that we are in times when both technological and cultural (politics, economics etc) advancements have increasingly become powerful tools used by humans to dominate nature, without a moral conscience nor ability to undertake any redeeming actions regarding the dangers being posed to the earth and its inhabitants including our own wellbeing.

It is suggestive from the institutional vision statement that PUCG students are to be so educated as to be environment conservers, from Christian principles that relate us as humans to the environment. Thus, while pursuing academic and professional studies PUCG students need to, as much as possible, discover their true human identity and vocation as Christian stewards, faithfully caring for the Earth and all that is in it.<sup>27</sup> This implies developing appropriate, lifelong, just and peaceful relationships with God, self, others and the environment; or in utilitarian educational terms, PUCG graduates cannot but be useful to themselves, society and the environment by avoiding environmental degradation and consequent destruction of humanity.<sup>28</sup>

The university set, among its objectives, to 'produce individuals who remain self-motivated in the realisation of their responsibility to God, their fellow citizens and to state',<sup>29</sup> where 'state' means nation, and hence, our cultural and biogeophysical environment as a country. To achieve this educational objective, the university mounted environmental science as both a four-year Bachelor of Science (B. Sc) degree programme (Environmental and Natural Resources Management Programme, ERMP) at the Akuapem campus, and a one semester general or mandatory course (Environmental Science, coded as GNSP 101) for all first year (level 100) students in programmes other than the B.Sc. ERMP.<sup>30</sup> At Okwahu campus GNSP 101 had run for the entire decade (2003-2013) of opening the campus as the first campus and the beginning of the university, the decade under review in this study. Although not necessarily taught as a programme nor a course, Environmental Health features as a significant topic in the Nursing and Physician Assistant Programmes at the Asante Akyem campus, opened officially in March 2008, for the Medical and Health Sciences faculty.<sup>31</sup> Thus at all the campuses, for all students in all the academic and professional programmes of PUCG, some aspect of environmental science features in their studies in accordance with the institutional objectives derived from the mission-oriented educational policy and expectation of the founding church, the PCG. To examine how the university has fared in carrying out this missional policy, I adduced evidence from analysed opinions

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<sup>26</sup> Northcott, Michael, *A Moral Climate: The Ethics of Global Warming* (London: Darton, Longman and Todd Ltd., 2007), p. 6.

<sup>27</sup> Myers, *Walking with the Poor*, p. 4.

<sup>28</sup> PCG, 'Educational Philosophy of the Church,' *Policy Document on General Education*, p. 14.

<sup>29</sup> PUCG, *Handbook and Students Guide*, 2013, p. 3.

<sup>30</sup> Within the first decade of PUCG's inception, Environmental Science (GNSP 101) as a general course has been taught at Okwahu campuses from 2003. It was introduced at Akuapem campus together with ERMP since opening the campus in January 2007, and Environmental health started at Asante Akyem with the beginning of the campus in September 2007.

<sup>31</sup> Asante Akyem campus began admitting students in September 2007, but the official opening ceremony was held on 24 March 2008, at Agogo. See The Registrar, *PUCG: Statutes*, Revised, (Registry: Design Press, 2010), p. ii and The Registrar, *PUCG: Asante Akyem - Maiden matriculation and Opening Ceremony, March 2008*, (Registry: Design Press, 2008), p. 13.

gathered through interviews from some students and lecturers of the course over the first decade of the university. The results are discussed in the ensuing sub-sections.

## **7.4 Interpreting Interview Results of PUCG Students and Faculty**

As stated in Chapter 1, both Esther Megill's and Bryant Myers' indicators are the main interpretive keys that have been used in assessing the data collected in this study. Generally, the supportive literature in the study suggests that central to a Christian higher education and curriculum is Christian theology based on the bible.<sup>32</sup> In addition, Esther Megill suggests that there is need for a context of an ongoing worshipping and witnessing community. For the cosmology, ecological culture and ethos of such a Christian community may motivate and strengthen moral environmental responsibility in the academia. This is what Bryant Myers means when he says '...what we believe in shapes what we do and how we do it.'<sup>33</sup> Megill suggests also the scope and delivery of the curriculum to include and direct students to issues of spirituality, while we balance the purpose relevantly between human formation and utilitarianism.<sup>34</sup> Holism for Bryant Myers, as discussed in chapter two, is a state of mind or an attitude that must be in the mind of the practitioner as a habit, a way of living, thinking, and doing. Furthermore, he suggests analysing for holism antithetically. Additionally, the extent to which people change, by discovering their 'God-image' identity and 'missional' vocation, and the level of the resultant justice and peace in all (including environmental) relationships, constitute evidence of transformational development.<sup>35</sup> It is a realisation of mindset. In all cases, neither Megill nor Myers quantified the determinant indices. The process is purely qualitative. I therefore employed their tools and indices to analyse the interview responses for evidences of studying environmental science as holistic mission and moral transformation at Okwahu and Akuapem campuses of PUCG.

### **7.4.1 Assessing 'Mindset' as Evidence of Christian Tone and Holism in both Presbyterian Education and Environmental Science (GNSP 101) Curriculum**

Generally, that the Presbyterian Church of Ghana (PCG) has intent to provide holistic and Christian higher education as a missional strategy by which students could identify themselves as humans in the image of God and with a vocation of earthkeeping, was evident as a matter of policy. The church has clearly documented this intent in the *Presbyterian Church of Ghana's Policy Document on General Education*. As noted above, the policy document outlines the 'Educational Philosophy of the Church' under eight themes.<sup>36</sup> Based on Myers' index of holism in a missional programme, it is not difficult to conclude that four of the themes, Knowledge of God, Moral and character training, Environmental cleanliness and Holistic development, strongly suggest that fifty percentage of the thematic areas covered by PCG's educational philosophy depicts the church's educational system as Christian and

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<sup>32</sup> Nziramasanga, Cephas T., 'Education Issues', in *Christian education in the African context: Proceedings of the African Regional Conference of the International Association for the Promotion of Christian Higher Education, Harare, 4-9 March 1991*, (Grand Rapids: IAPCHE, 1992), p. 86.

<sup>33</sup> Myers, *Walking with the poor*, p. 4.

<sup>34</sup> Megill, *Education in the African Church*, p. 200.

<sup>35</sup> Myers, *Walking with the Poor*, pp. 3, 201, 202.

<sup>36</sup> PCG, 'Educational Philosophy of the Church,' *Policy Document on General Education*, pp.13-14. The themes include: Knowledge of God, Moral and Character Training, Religious Tolerance, Promoting human virtues, Generation of Knowledge and skills, Civic responsibility, Environmental cleanliness and Holistic development.

holistic. Myers considers that holism in a missional programme is for the most part a state of mind or attitude; or antithetically, no mention of work directed to spiritual or value change indicates no holism.<sup>37</sup> There is an implied, documented intention, indicated by stipulating Christian-related themes also to be considered in the curricula of PUCG educational institutions.

Among the eight thematic areas of her educational philosophy, PCG stated 'knowledge of God', first. The church's mission statement underlying the educational philosophy suggest that the centrality or primary educational concern of theology and bible was in the mind of the church leaders. Part of it reads: 'to uphold the centrality of the Word of God and through the enablement of the Holy Spirit adopt a holistic development of her human and material resources.'<sup>38</sup> From the suggestions of Megill and Myers, we may infer holism if we can perceive a mindset of work directed at spirituality, since it may not be obvious from the programme itself. 'Knowledge of God' as a theme in the educational philosophy of PCG is stated in the document that

The individual [learner] should be brought up to acknowledge God and His salvation plan for humankind through Jesus Christ. This understanding should come not by indoctrination but clear exercise of faith through the study of the scriptures.<sup>39</sup>

This, for me, is the church's documented mindset to promote 'knowledge of God' yet the implementation of this mindset is not to be explicitly through 'indoctrination' in the educational process. Rather the realisation of the mindset is to be through 'exercise of faith' in truths gathered from 'the study of the scriptures.' This, by implication, invites PUCG to believe in, practice and interpret truth in the educational instructions biblically to the end that students might know God's salvation through Jesus. Megill believes that 'teaching theology [and hence biblical truth] by implication is often undeliberate,' but is powerful in achieving the purpose of Christian education.<sup>40</sup> Thus as a matter of policy PCG presents the 'scriptures' or bible categorically as an interpretive source for Presbyterian higher education, with the intent of indirectly offering opportunity to learners to 'acknowledge God and His salvation plan...through Jesus Christ.' In this sense, the educational philosophy of PCG engenders Presbyterian higher educational institutes, such as at Presbyterian University College, Ghana, to be not only holistic but also missional,<sup>41</sup> and emphasising the centrality of theology. According to Megill, 'Christian education aims to introduce persons into the life and mission of the community of Christian faith'.<sup>42</sup> Hence, the need for the university to create Christian community for directing God's love to his entire creation, and relate faith with our interests in scientific method and information to enhance our self-understanding as neighbours on Earth.<sup>43</sup>

Equally important in the Myers' indices of Christian tone and holism in education is a mindset of training learners for progressive life-long transformation. For Myers transformation has twin goals: 'changed [and changing] people, who have discovered [and are discovering] their true identity and vocation; and changed relationships [with God, self,

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<sup>37</sup> Myers, *Walking with the Poor*, p. 202.

<sup>38</sup> PCG, 'Educational Philosophy of the Church,' *Policy Document on General Education*, p. 14.

<sup>39</sup> PCG, *Policy on General Education*, p. 4.

<sup>40</sup> Megill, *Education in the African Church*, p. 195.

<sup>41</sup> In deed the introductory paragraph of the 'Educational Philosophy of the Church', categorically explained that the church's education 'is a special mission to accomplish', and that 'this mission does not conflict with that of the State and the World at large.' (See Presbyterian Church of Ghana, *Policy on General Education*, p.13).

<sup>42</sup> Megill, *Education in the African Church*, p. 195.

<sup>43</sup> Megill, *Education in the African Church*, p. 196.

others and the environment] that are just and peaceful.<sup>44</sup> The second theme of the PCG educational philosophy, 'Moral and Character training', insists that 'Education should *deliberately* influence the affective domain of the individual, helping him to cultivate the sense of uprightness, honesty and discipline in order to reflect the true nature of his maker.'<sup>45</sup> Thus as a matter of educational ideology Presbyterian higher educational institutions need to aim at helping a learner to 'cultivat[e] the sense' of being morally responsible like 'his maker'. In short, the outcome or products of Presbyterian higher education need be morally transformed or transforming people, based on their rediscovery of themselves as humans in the image of God. In the concluding chapter of his historical survey of the past twenty centuries of the Christian academy, Arthur Holmes identifies moral transformation as one traditional concern that Christian education must re-emphasise in the twenty-first century. As he puts it, 'Neither should we ignore an emphasis on moral and spiritual formation and care of the soul, the second of the traditional concerns of Christian education.'<sup>46</sup> Holmes was confident in suggesting a return to moral transformation as a tradition in Christian higher education, because it had started working already in some American colleges and universities. According to Dalton and Crosby, 'a surprising thing happened on the way to increasing secularism in American higher education: colleges and universities have become increasingly engaged with the moral values and character development of their students'<sup>47</sup> since the last decade of the twentieth century.

I pointed out in chapter two that the second part of Myers' transformational goal is to 'discover our true vocation as productive stewards, faithfully caring for the [Earth] and all the people in it.'<sup>48</sup> Perhaps this vocation of faithfully caring for the Earth is what Calvin B. DeWitt calls 'part and parcel of the human task [or moral responsibility] since Adam.'<sup>49</sup> This is the fifth mark of the mission of the Christian church. It is thus *missio Dei*. According to DeWitt, it begun in Eden when God affirmed a covenant with every living creature (Gen 9), was vindicated through the sacrificial service of the son of Adam, Jesus Christ (1 Cor. 15), and incorporated in the Great Commission. As he explains, 'God's love, expressed in the inexpressible gift of the Son of Man, brings hope for the whole creation - equipping people everywhere to serve and safeguard the garden of God.'<sup>50</sup> The need to equip people with the understanding to be morally responsible in caring for the Earth, as transformed humans and as a mission of the church, underscores the philosophy of Presbyterian higher education. The seventh theme of the PCG educational philosophy states that

Education should lead individuals to appreciate the need to maintain the environment and protect the natural resources in order to avoid their degeneration and consequent destruction of humanity.<sup>51</sup>

This suggests an intent of the church, at least policy-wise, for Presbyterian higher education not only to include environmental studies in the curricula, but that such studies should actually 'lead' (or morally transform) the learner to 'appreciate the need' to be environmentally

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<sup>44</sup> Myers, *Walking with the poor*, p. 202.

<sup>45</sup> PCG, 'Educational Philosophy' *Policy on General Education*, p. 13. Italics my emphasis.

<sup>46</sup> Holmes, *Building the Christian Academy*, p. 111.

<sup>47</sup> John C. Dalton and Pamela C. Crosby, 'Core Values and Commitments in College: The Surprising Return to Ethics and Character in Undergraduate Education,' *Journal of College & Character* Vol. 12, No. 2, May 2011, p. 1.

<sup>48</sup> Myers, *Walking with the Poor*, p. 4.

<sup>49</sup> DeWitt, 'To strive to safeguard the integrity of creation', p. 84.

<sup>50</sup> DeWitt, 'To strive to safeguard the integrity of creation', p. 84.

<sup>51</sup> PCG, 'Educational Philosophy of the Church', *Policy on General Education*, p. 13.

responsible. By this intention, Bryant Myers might agree that PCG education aims to be Christian and holistic.

However, that PCG intends her higher education to be holistic is more unequivocally expressed in the eighth policy theme, *Holistic Education*. The theme explains that 'Education should help to develop an all-round personality: a mind to do critical analysis of issues; a heart to love and do what is right and a hand that works hard to harness the resources of the State for development.'<sup>52</sup> The mandatory tone of the statement of this commonly called 3-H philosophy of education suggests that PCG intends that her higher educational institutes, such as Presbyterian University College, Ghana, (PUCG) be obliged to render holistic educational services. In such holistic education there is need to train the learner's heart to 'love and do what is right', that is be morally responsible in all human relations with God, self, others and the environment.<sup>53</sup> Gerald Pillay believes this kind of education is the greatest missiological opportunity for Christian faith.<sup>54</sup> This explains why PCG has a policy to fulfill her mission task through establishment of tertiary institutions<sup>55</sup> like PUCG, with institutional vision to promote environmentalism as a divine vocation.<sup>56</sup>

It is not difficult, then, to see that in terms of the policies of both the founding church (PCG) and the institution itself, PUCG is to render holistic and missional higher education. Particularly concerning the environment, PUCG's environmental science programmes are to equip or transform learners who appreciate their true humanness and calling to be morally responsible for the environment. Thus it is important to examine the evidence of the institutional commitment to realising the mindsets in the policy documents during its first decade of operation, particularly in the design and delivery of environmental science as a general or mandatory interdisciplinary course.

## **7.5 Evidence of Commitment to a Christian and Holistic Mindset in the Design and Delivery of Environmental Science (GNSP 101)**

Esther Megill speaks of the design of an academic curriculum as following a principle to organise the sequence of the teaching-learning process - the order by which the learning tasks may be undertaken effectively as goals and activities.<sup>57</sup> I believe the same goes with planning the syllabus - sequence of topical objectives and activities commonly called 'course outline' - for a single subject or course. Traditionally a course outline includes objectives, content, resource materials and methods of delivery and evaluation.

Explaining the necessity of clear objectives of a course in Christian education, Megill observes how it helps in deciding what to do, keep on track, evaluate degree of success or failure in terms of not teaching 'something other than Christianity, however well-meaning'.<sup>58</sup> Although it may be difficult to do sometimes, she suggests a general course objective, which must reflect the church's educational policy and be theologically sound, with specific topical

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<sup>52</sup> PCG, 'Educational Philosophy of the Church', *Policy on General Education*, p. 14.

<sup>53</sup> It is like 'Education for [Spiritual], Personal, Social [and Environmental] Responsibility', respectively, as Association of American Colleges and Universities (AACU) will call it, according to Nancy O'Neill., 'Educating for Personal and Social Responsibility: Levers for Building Collective Institutional Commitment,' *Journal of College & Character*, Vol. 12, No. 2, May 2011, p. 1. O'Neill was describing a set of lessons learned from a national project on education for personal and social responsibility that can be adopted across a variety of specific institutional contexts and missions.

<sup>54</sup> Pillay, 'Education as Mission', p. 167.

<sup>55</sup> PCG, 'Vision and Mission Statement', *Policy on General Education*, p. 15.

<sup>56</sup> PCG, 'Tertiary Institutions,' *Policy on General Education*, p. 60.

<sup>57</sup> Megill, *Education in the African Church*, p. 202.

<sup>58</sup> Megill, *Education in the African Church*, p. 196.



aims and learning tasks according to the demands of the subject, needs of the students and aims of the teacher.<sup>59</sup> On his part Bryant Myers views that the absence of work (objective and content) directed at spiritual or value change and/or seeking meaning (perhaps to what the church believes regarding the topic) is non-holism. In evaluating the design of Environmental Science (GNSP 101), I viewed the course with these spectacles of Megill and Myers, from documented course outlines (objectives, contents, delivery, prescribed resource materials and examination papers) and interview responses of teachers and students who participated in this study within the first decade of PUCG.

### **7.5.1 Holism in the Environmental Science Course (GNSP 101) Outline: Objectives and Contents**

Apart from a handout, which was more of lesson notes for both teacher and students, no document was available for this study concerning a clear outline of the Environmental Science general course (GNSP 101) from November 2003 up to July 2009.<sup>60</sup> There was neither a clearly defined course objective nor topical aims. However, it was inferable that the purpose of the course was to enable students to see the environment as a useful natural system that they could scientifically exploit and manage in relation to their business life, though with caution to ensure sustainable human development. Therefore, they were to see themselves responsible for 'perpetuating God's creation,'<sup>61</sup> beginning with Abetifi where the institute's principal campus is located.

Lecturer L-AB001,<sup>62</sup> explained the reason for including the Environmental Science (GNSP 101) in the curricula for the Business Administration and also Information, Technology and Communication (ICT) programmes that the university started with at Okwahu campus. It was 'the problem with sanitation in Ghana and misuse of resources related to God's injunction for mankind to take care of His creation.' Therefore, the educational purpose was 'for students to be conscious of the fact that God expects us to take care of the environment so that God's creation would be perpetuated.'<sup>63</sup> However, pragmatically, the consciousness of students to care for the environment was, perhaps, more related to their concern for its usefulness to them than as a Christian moral call. This was apparent in the response of the lecturer (L-AK001) of the course in 2009 at Akuapem campus. For L-AK001, an environmental scientist, the motivation for mounting GNSP 101 was because the natural environment is resourceful for economic growth of Ghana; it needs to be well managed to continue servicing the economy: 'Hence, even students not majoring in Environment and Resource Management Programme (ERMP) also need to know this so as not to negatively affect our wellbeing.'<sup>64</sup> Another evidence of leaning more to a utilitarian than a morally transformative objective of the course was the absence of the latter explicitly in examination questions. The only question that appeared practical in the very first examinations in March 2004 and repeated in January 2006 tested only students' knowledge of environmental concerns for establishing 'an agricultural complex at a suburb of Abetifi.' In 2005, the practical-oriented test item was similar except that it had to do with 'Abetifi Community planning to establish a soap manufacturing plant.' An alumnus, Samuel Nii Devine was

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<sup>59</sup> Megill, *Education in the African Church*, p. 197.

<sup>60</sup> See appendix B1.

<sup>61</sup> Lecturer L-AB001, interview, Kumasi, with questionnaire submitted by email and retrieved after two months in November 2014.

<sup>62</sup> He is a mining engineer and the first designer and lecturer of the mandatory Environmental Science course (GNSP 101) in 2003.

<sup>63</sup> Lecturer L-AB001, interview, 8 November 2014.

<sup>64</sup> L-AK001, interview at Akuapem-Akropong, 15 November, 2016.

among the very first batch of students of the course, from ICT/Maths Department at Okwahu. He recalled, 'The objective was to introduce us to the environment, specifically the Abetifi environment and the implication of how the environment could affect our studies [academic programmes of Business Administration and ICT] as well as how we also by our actions or inactions could affect the environment.'<sup>65</sup> In his contribution, alumnus Martin Amaniampong, member of the second crop of students, from Business Administration Department, remembered 'it was to appreciate how humans co-exist with environment we live in. The professor said that "the bottom line is that we should treat the environment friendly and it will also treat us well."<sup>66</sup> Above all 'it was just because we do business in the environment and adverse actions in environment will come back to affect business. So we were to have fair knowledge about the environment and how business relates to it.'<sup>67</sup>

The views from continuing students at Akuapem campus, where GNSP 101 was introduced lately, with the opening of the campus in 2007, were not largely different. For Dorcas Colley 'GNSP 101' was aimed at enabling them 'preserve the environment for future generations.'<sup>68</sup> In a separate interview Eric Ankamah remembers it was to let them 'see the environment as part of our existence and provider of our renewable resources.'<sup>69</sup> Thus, both the alumni and continuing students who participated in this study saw the purpose of the Environmental Science course with anthropocentric valuing - benefits to humanity - of the environment, and hence needed to relate symbiotically for its preservation.

The 2003 handout defines Environmental Science as 'the study of the natural environment, the impact of human activity...measures of reducing the impact through...human activity for sustainable [human] development.'<sup>70</sup> Then in what I consider the course objectives and content on the introductory page, the handout states that the study of environmental science involves the following:

- a) understanding the physical and the natural environment and interactions
- b) applying the concepts of planning, economics and management to the exploitation and utilisation of the resources
- c) the scientific measurement and assessment of environmental pollution and impacts, i.e. how the environment is affected by human activities arising from the use of resources
- d) employing scientific and engineering principles in optimizing the processing and application of the resources to minimize waste and energy
- e) managing the treatment and disposal of any waste that may be generated<sup>71</sup>

It follows that students as humans need to 'understand' the environment, apply human-developed scientific 'concepts and technology' to human 'exploitation and utilisation of the [environmental] resources.' However, 'in optimizing the processing and application of resources' the course was to enable them scientifically 'measure' and 'minimize' anthropogenic 'pollution', 'waste and energy.' Thus, as it appeared, the course objective was mainly utilitarian and focused only on human benefits from the environment made possible with only modern science and technology. The anthropocentric and utilitarian tone was more clearly inferable from the explanation of the importance of the environment in the note:

First it provides living space and other amenities that make life qualitatively rich *for man* [sic]. Second, the environment is a source of agricultural, mineral, water and other

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<sup>65</sup> Ni Samuel Odoi Devine, interview, Abetifi on 2 October 2014.

<sup>66</sup> Martin Amaninampong, interview, Abetifi on 2 October 2014.

<sup>67</sup> Amaninampong, interview, 2 October 2014.

<sup>68</sup> Dorcas Colley, interview at Akropong-Akuapem, 7 May 2015.

<sup>69</sup> Eric D. Ankamah, interview at Akropong-Akuapem, 7 May 2015.

<sup>70</sup> L-AB001, 'Introduction,' *GNSP 101 Environmental Science Outline* (See appendix 5), p. 3.

<sup>71</sup> L-AB001, 'Introduction,' *GNSP 101 Environmental Science*, p. 3.

resources that are consumed directly or indirectly [by humankind]. Thirdly, the environment is a sink where all the waste produced by man [sic] is to be assimilated.<sup>72</sup>

Notwithstanding the fact that spatial usefulness, fecundity, nurturing and waste assimilation are aspects of the environment's function, teaching this without any element of ethics or religious implications might not induce a motivation for moral responsibility in sustenance, particularly in accessing its nurturing usefulness and as a 'sink' for 'human waste.' Without ethical or religious implications, any rationale for environmental protection may relate to only anthropocentric economic valuing and eco-engineering. It may not engender moral conscience against, for instance, indiscriminate deforestation or dumping of waste anywhere in the environment. The environmental ethicist Aldo Leopold (1887-1948) of Yale Forestry School once questioned the role of ecology as a science serving human progress exclusively. He further asserted that effective sustaining of holism in nature lie in application of philosophical and religious categories that influence human transformation from within, particularly as regards our intellectual emphasis in academia.<sup>73</sup>

Apparently, although the reported intention of the Environmental Science course was to motivate students' environmental responsibility on the basis of 'God's injunction for mankind to take care of His creation'<sup>74</sup> it was difficult to perceive an emphatic religious, particularly a Christian perspective in what may be the documented objectives of the course (GNSP 101). It was not easy to get categorically how, from the document, the course was holistic in terms of how it 'seeks meaning' - as Myers requires - of the environment from a Christian worldview or cosmology. Secondly, Esther Megill implies that an academic subject is Christian when its objective reflects the educational policy of the founding church. From the second policy theme of educational philosophy, Presbyterian higher educational institutions need to aim at helping a learner 'cultivat[e] the sense' of being morally responsible like 'his maker'. Yet the objectives of GNSP 101, as perceived in the 2003 document, lacked evidence in directing students to their religious role of loving and caring for the environment as humans in the image of God, in accordance with the educational philosophy of PCG.

In September 2009 when I (an agriculturist) was appointed the third lecturer in succession at Okwahu campus and asked to review the course, I noticed the lack of a clearly designed outline, at least the absence of clearly stipulated objectives. As the university chaplain as well, I saw the opportunity to extend my role of promoting moral responsibility in students through the environmental science course by integrating some Christian ethical or theological inferences and interpretations in the study. It was necessary to have a clearly stated objective so as not to be teaching what Megill calls 'something not Christian, though meaningful'. I provided a course objective and grouped the course contents of the 2003 document under four major themes. Each theme had three topics with specific topical aims, as Megill suggested. However, my reviewed objectives were, perhaps, more of a mere reorganisation of the 2003 perceived objectives and contents into two major ones without any explicitly introduced Christian or theological inferences.<sup>75</sup> The second of the revised objectives states:

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<sup>72</sup> L-AB001, 'Introduction,' *GNSP 101 Environmental Science*, p. 3. Italics my emphasis

<sup>73</sup> Aldo Leopold, *A Sand County Almanac and Sketches Here and There*, (New York: Oxford University Press, 1949). See also Grim and Tucker, *Ecology and Religion*, p. 75.

<sup>74</sup> L-AB001, interview, 8 November 2014.

<sup>75</sup> The first part of the reviewed objectives read: To expose students to the underlying scientific principles, concepts and methodologies required to: (1) understand the constituents of and interrelationships in the natural world around man, (2) identify and analyse environmental problems/risks both natural and human-made, (3) examine alternative solutions and/or preventive measures to environmental problems/risks for sustainable development. See appendix B 2.

Essentially the course is expected in the end to equip students with basic tools to appreciate and consider environmental issues as they relate to human livelihood and survival in order that they may adopt appropriate attitudinal changes thereto.<sup>76</sup>

Clearly, the 2009 reviewed objectives suggested making students as humans to see and relate to the environment as a resource for 'livelihood and survival', but not because of the source of the good life itself. Thus, the assumed and reviewed course objectives of 2003 and 2009, respectively, appear rather anthropocentric and neither implicitly nor explicitly theocentric. I reason out then that both the definition of the course and its stated objectives (original and reviewed) did not sufficiently seek orienting and grounding students in the cosmos, with a divine call for moral environmental responsibility. The definition of the term environment in the course content, which remained, to a large extent, as that of 2003, can suggest that nature is something apart from humans, leading to students having no passion for nonhuman creatures. As noted earlier, John Grim and Mary Tucker prefer the term 'Ecology' to Environmental Science, due to this reason.<sup>77</sup> But if the objectives of this course were not, emphatically holistic what about the contents?

From Esther Megill I deduce that one main key for evaluating the content of a Christian and holistic educational syllabus is the inclusion of themes on spirituality. She asks 'Do you feel the content is comprehensive', that is holistic or including issues relating to both the physical and spiritual worlds?<sup>78</sup> Bryant Myers holds the same view when he states that the absence of work directed at spiritual or value change depicts no holism.<sup>79</sup> None of the twelve themes/topics in the 2003 handout<sup>80</sup> appears implicitly or explicitly related to theology, as Megill suggests; or inquiring Christian meaning, as Myers expects. From 2009-2012, the reviewed contents, however, had two (16.6%) out of the twelve sub-themes<sup>81</sup> indicating the need for involving religio-cultural ideas in the study of environmental science. These were specifically under themes I and IV, but more under IV: 'Human Impact on the Environment - Problems and Management.' The theme requested students to know suitable practices that may be used for effectively sustaining the environment, including ideas and central tenets from the cultures and religions (primal and Christian) of Africa. It states that students should be taken through managing human impact on the environment: developing sustainable practices; combine conservation and development principles, including religious allusions; commitment to international conventions and indigenous cultural prescriptions such as taboos and progressive Christian tenets on environment and so on.<sup>82</sup> The intention and aim of this topic was for students to be conscious of the fact that God expects us to take care of the environment so that they could keep the integrity of God's creation while using it for development.

Generally, there has been some reported intention, yet neither the documented objectives nor the contents of the Environmental Science course (GNSP 101) provided an emphatic evidence of holism since 2003 until between 2009 and 2013 when 16.6% of the contents could insignificantly be considered as holistic. Perhaps, since holism must not only 'be in the mind', but also as 'a way of living... and doing,'<sup>83</sup> we may find it more in the process of teaching or delivery of the course and use of resource materials for teaching.

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<sup>76</sup> E. Y. Blasu and Kofi Sraku-Lartey 'Introduction,' *GNSP 101 Environmental Science*, (reviewed 2009), (Unpublished: PUCG, 2009), p. 1. See Appendix B 2.

<sup>77</sup> Grim and Tucker, *Ecology and Religion*, p. 62.

<sup>78</sup> Megill, *Education in the African Church*, p. 202.

<sup>79</sup> Myers, *Walking with the poor*, p. 202.

<sup>80</sup> See appendix B 1.

<sup>81</sup> See appendix B 2.

<sup>82</sup> See 2009/10 Revised Course Outline, appendix B 2.

<sup>83</sup> Myers, *Walking with the Poor*, p. 202.

### 7.5.2 Holism in the Environmental Science Course: Materials and Delivery 2003-2009

The major indicator here is Esther Megill's suggestion of evidence of implicit or explicit biblical or theological inferences, particularly about addressing 'contemporary [environmental] experiences,' as an indication of holistic education. This corroborates the policy of PCG that as much as possible there is the need for the 'scriptures' or bible to be used as an interpretive source material for bringing students 'up to acknowledge God and His salvation plan for humankind'<sup>84</sup> and the entire creation (Rom. 8:23-24). This study found no documented evidence to suggest that lecturers incorporated religious materials during delivery of the subject between 2003/4 and 2008/9 academic years. The respondents participating in the study confirmed this. The lecturer during the first three academic years (2003/4 and 2005/6), when the course was studied at only Okwahu campus, affirmed that there were no prescribed textbooks, except 'current materials from the Internet,'<sup>85</sup> implying the bible was definitely not a prescribed reference material for interpreting issues discussed in the course. The responses of the alumni who were students during this period were no different. One alumnus, Bright Korang-Yeboah, who read the course in 2006/7 academic year, responded: 'bible was not specifically mentioned nor any texts from it for the course. And nothing was given to prompt our attention to the bible in connection with the course.'<sup>86</sup>

The lecturer himself did not explain why bible was not a reference source for the course. However, the responses of alumni who were students at the time suggest that it was not the practice of the lecturers prior to 2009/10 academic year to involve bible in teaching the course. At least they did not experience it as 'a way of living' of their environmental science lecturers, nor did they themselves as students think it should be so. Samuel Nii Devine of the 2003/4-year group explained,

It was basically a science course, and was to make us look for evidence around us and use scientific backing of it. So the biblical aspect or implication from religion I didn't think could be part of it. So I did not look out for it...Religion or bible was not clearly there. No typical bible texts were given to us to study in relation to environmental science.<sup>87</sup>

Another, Martin Amaninampong, of the 2005/6 year, did not 'remember if bible *per se* was used as a source book;' and any reference to bible, if at all, in studying environmental science was purely dependent on the objectives of the course and prerogative of the lecturer. For him 'the bottom line is the objective of the course - whether it requires bible or not. Every teacher has his/her own way of teaching what he/she wants to deliver.'<sup>88</sup> This student, explaining further, was personally of the view that using bible, as a textbook in science, would 'desecrate the bible,' reducing it to 'a mere intellectual work'. It then will lose its 'spiritual authority'. Moreover, when they were newly introduced to university life most of them students least expected that biblical or spiritual concerns would be included in their studies.<sup>89</sup> So not only did lecturers not include bible as reference material for the environmental science studies, but the students also did not see any place for bible in the study of the course. As one aptly put it, 'I don't really remember anything that would have needed use of the bible.'<sup>90</sup>

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<sup>84</sup> PCG, 'Educational Philosophy of the Church,' *Policy on General Education*, p. 13.

<sup>85</sup> L-AB001, interview, Kumasi. The other lecturer after L-AB001 between 2006/7 and 2008/9 academic years was L-AB002, a computer scientist. He was not available to participate in the study.

<sup>86</sup> Bright Korang Yeboah, interview, Abetifi.

<sup>87</sup> Devine, interview, Abetifi.

<sup>88</sup> Amaninampong, interview, Abetifi.

<sup>89</sup> Amaninampong, interview, Abetifi.

<sup>90</sup> Korang Yeboah, interview, Abetifi, Bright studied the course from September 2006 to January 2007.

So bible *per se* was not a reference material for the course and 'no typical bible texts were given ... in relation to environmental science'<sup>91</sup> from 2003/4 to 2008/9 academic years. But what about the delivery process at this time? Did it direct students to spiritual or value change and discovery of identity and vocation (moral relational responsibilities) as humans in the image of God, as Myers suggests?<sup>92</sup> Grim and Tucker observe that 'there are important forms of ecological spiritualities within the religious traditions and outside of them,' which 'are significant...in responding to the environmental challenges we are facing.'<sup>93</sup> Moreover, I have earlier inferred from Arthur Holmes' survey of Christian higher educational history that from the bible times and through the past twenty centuries CE, if knowledge, understanding and skills, do not lead to faith in God and development of good morals in one's relationships, it is not being wise (Ps. 53.1) - not yet learning.

The lecturer between 2003/4 and 2005/6 academic years reportedly integrated some religious ideas in the teaching of the environmental science course. He reported teaching students to know that 'the injunction to Adam was to take care of God's creation.'<sup>94</sup> In addition, he referred to traditional religious ideas including 'the concept of the sacred grove and crop rotation' as some indigenous ways of preserving nature. Asked to give reasons why he included such a religious thought in environmental science studies he responded,

From the traditional religious point of view, desecration of sacred groves was an affront to the gods and therefore a practice that was not to be tolerated. From the scientific viewpoint, this practice was a method of forest conservation. The underlying argument is the belief that association of the gods to such practices would make people fear to touch the forest and therefore help to preserve it.<sup>95</sup>

Thus from his response, the lecturer expected, at least, that students would naturally be motivated to earthkeeping either upon hearing of God's charge to Adam to do so or about possible retribution of traditional deities for not doing so. The responses of 2003/4 -2005/6 environmental science students participating in this study suggest that occasionally 'the lecturer's belief was indeed put into the lecture,'<sup>96</sup> particularly in his 'comments that the environment was created by God for us, and so we have obligation to care for it.'<sup>97</sup>

Contrarily, the alumni who studied the course between 2006/7 and 2008/9, with a new lecturer, a computer scientist at Okwahu campus, remembered no reference to any religious thought in the course. Perhaps this was because, as one of them was certain about, the new lecturer made the 'course look very straight and technical without relating them to issues of daily living and application.'<sup>98</sup>

Thus, apparently, for the first six years (between 2003/4 and 2008/9), religious allusions and implications, if at all, appear more incidental than a planned 'way of life' and not emphatic in the teaching of the subject. The methods employed in delivering the environmental science course included lectures, field studies, e-learning platforms, and interactive discussions in class and groups. The lecturer from 2003/4 to 2005/6 academic years explained that the delivery method as designed was 'For students to tour their immediate environment, list the natural resources they see, indicate how human activity

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<sup>91</sup> Devine, interview, Abetifi.

<sup>92</sup> Myers, *Walking with the Poor*, p. 202.

<sup>93</sup> Grim and Tucker, *Ecology and Religion*, p. 30.

<sup>94</sup> L-AB001, interview, Kumasi.

<sup>95</sup> L-AB001, interview, Kumasi.

<sup>96</sup> Devine, interview, Abetifi.

<sup>97</sup> Devine, interview, Abetifi. Martin Amaninampong also gave similar responses.

<sup>98</sup> Korang-Yeboah. Interview, Abetifi.

affect these resources and how these effects could be mitigated.<sup>99</sup> Therefore, 'students were put into groups and given specific resources to work on.' The students confirmed this approach as in the responses of alumni Devine of the 2003/4 batch,<sup>100</sup> Korang-Yeboah of the 2006/7<sup>101</sup> and also Edem Adjei of the 2008/9.<sup>102</sup> They remembered having been once asked to study and write a paper on the nature of Abetifi environment: why it is suitable location for learning and teaching. Evaluation of GNSP 101 involved term assignments with presentations in class, mid-semester tests and end of semester examinations. However, this research did not find any religious items in the examination questions during this period.

It may not be difficult, according to Myers' indicators for holism,<sup>103</sup> then to conclude that teaching and learning of the mandatory Environmental Science (GNSP 101) during this time (2003 to 2009) was not emphatically holistic, since both teachers and students did not exhibit holistic thinking and praxis, nor were the lectures emphatically directed at spiritual or Christian value change concerning environmental responsibility. Any reported attempts seemed rather casual and not 'a way of life.'

### 7.5.3 Holism in the Environmental Science Course: Materials and Delivery 2009-2013

Generally, for the next four academic years from 2009/10 to 2012/13 in this decadal study, the reported evidence of holism in terms of reference to religious materials or thoughts in the teaching and evaluating environmental science was slightly more apparent than the preceding six years. It was particularly very glaring during the first two academic years of 2009/10 to 2010/11 when I succeeded as the third lecturer of the course at Okwahu campus and L-AK001 appointed at Akuapem campus. But for the second two academic years of 2011/12 to 2012/13 the responses of students actually suggest a downward trend of holism in the course.

Some evidence supporting the observations above go as follows. First, the reviewed course outline in the handout by September 2009 now listed a bibliography or reading references, and included the bible, from which related references were to be made.<sup>104</sup> An alumnus, Irene Agyepomaa Boateng who was a member of the 2010/11 academic year environmental science class at Okwahu, however, did 'not remember if bible was a referred book, but knew for sure that the lecturer referred to stories in the bible in the course. She said, 'The lecturer took part of the lesson from the bible. He said that environmental science started from the bible. God told Adam to till and keep the land in the bible.'<sup>105</sup> In separate interviews, both the lecturer and students at the Akuapem campus attested to references to creation stories in the bible and Qur'an, though the two holy books were not necessarily prescribed nor

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<sup>99</sup> L-AB001, interview, Kumasi.

<sup>100</sup> Devine, interview, Abetifi.

<sup>101</sup> Korang-Yeboah, interview, Abetifi..

<sup>102</sup> Edem Adjei, interview, Abetifi, 19 September, 2015. His year mate Kweku Boateng Frimpong (A-013), interview, Abetifi, 19/9/2015 also gave similar response in a separate interview.

<sup>103</sup> Myers, *Walking with the Poor*, p. 202.

<sup>104</sup> W. P. Cunningham and B. W. Saigo, (2001) *Environmental Science*, 6<sup>th</sup> ed. McGrawhill, NY;

B. J. Nebel and R. T. Wright, (1996) *Environmental Science*, 5<sup>th</sup> ed. Prentice Hall, New Jersey;

C. I. O. Olaniyan, (1975) *An Introduction to West African Animal Ecology*, 2<sup>nd</sup> ed. Heineman Ed Books, Ibadan;

D. W. Ewer and J. B. Hall, eds., (1972) *Ecological Biology*. Longman, Lond; E. P. Odum, (1967) *Fundamentals of Ecology*, 2<sup>nd</sup> ed. Saunders Co. USA; and The Holy Bible. (See 2009/10 Revised Outline of GNSP

101Environmental Science, p. 1. Appendix B 2.

<sup>105</sup> Irene Agyepomaa Boateng, interview, Abetifi 6 October 2014.

read as text books.<sup>106</sup> Student Eric Ankamah (of 2010/11 batch) was sure bible was not a recommended textbook, but some scriptures were quoted from it basically from Genesis. For instance, 'subdue the earth' implying 'use or till the earth but allow it to renew and leave it to come back but don't destroy it' was taken from the bible.

Second, analysis of some examination questions suggest that some effort of holistic education as 'a way of living and doing' was made in teaching the Environmental Science course at this time. For instance, in December 2009 examinations for regular students at Okwahu campus, a three-hour paper consisting of parts A and B, allotted two hours for part B to answer four compulsory questions. The fourth question read:

- (a) Mention a biblical passage that lends credence for all human beings to treat the environment responsibly.
- (b) From your understanding of environmental science, which expressions in the passage in (a) may imply: (i) humanity (ii) biosphere (iii) exploit and use resources (iv) manage human impacts for sustainable development?
- (c) (i) What is a pollutant according to Odum (1975)? (ii) Mention and explain two ways students can be human pollutants in the psycho-social environment of PUC-Gh. (iii) Suggest a way to combat each of the pollutions you mention.

It is inferable from the question that a significant effort had been made in integrating faith in learning. It portrays an attempt made to provide a holistic view and comprehension of the topic by drawing comparative relationships between the scientific facts and faith in the creation account of the bible (such as biosphere and Garden of Eden). Further, the responses of students give me the impression that the test item in the December 2009 examination was justifiably assessing efforts to direct students' mind to Christian cosmology and the theology of humanity's stewardship or call of moral responsibility for the environment. It signified a practical attempt made to 'deliberately' influence<sup>107</sup> attitudinal and behavioural change of students with understandings of environmental ethics concerning pollution, including some student behaviours considered as pollutants in social environment, which they must avoid. This leads to the third evidence.

Thirdly, the religious tone seemed to have impacted some of the students, at least in appreciating religion in the science subject. In the answer to 'What has studying GNSP 101 got to do with the way students dress in public' and 'how do you react to it' Irene Boateng said,

[Not dressing well] amounts to indecency, and hence, social pollution, as the lecturer used to say. In fact, the people in Abetifi do complain that our dressing in PUCG has been spoiling their children. Me personally, I do check others and myself. I stay in the same room with Mary, the other service personnel in room 10. We check on each other's dress before we get out of the room.<sup>108</sup>

In an open discussion after the main interview session, when asked to explain how she understood the biblical ideas of the lecturer in the science course she replied 'If I remember well he wanted us to realise that while we farm, the land must not lose fertility completely.

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<sup>106</sup> According to L-AK001, interview at Akropong-Akuapem, 15 Nov. 2016, he involved Muslim students to share counterpart ideas from Islam and the Qur'an in order not to leave them out of the religious ideas cheeped in.

<sup>107</sup> The second theme in PCG educational policy insists that 'Education should *deliberately* influence the affective domain of the individual, helping him to cultivate the sense of uprightness, honesty and discipline in order to reflect the true nature of his maker.'

<sup>108</sup> Boateng, interview, Abetifi.



This is true because we shall also have children on the same land.'<sup>109</sup> Similarly, Matilda Ayeltige of Akuapem campus (among the 2012/13 batch) was certain that the lecturer 'did not prescribe bible, but he made references from it saying "cleanliness is next to Godliness and also God created the environment"'. Then nodding her head in agreement she continued: 'It means that God is not happy when we pollute the environment.'<sup>110</sup> Dorcas Colley (of 2011/12 batch) recollects from the course that 'Cleanliness is next to godliness; to be closer to God is to be clean'<sup>111</sup> For Lilian Okoree (of 2012/13 batch), GNSP 101 did not instruct her specifically about biblical stance on environmental pollution. She, however, knows it as a Christian and thought of it during the lectures that, 'God is holy and doesn't like pollution. So we must please God by keeping the environment clean. The bible can remind me to keep environment clean as it has commanded.' She then suggested: 'This is why religion must be part of the course so as to make you know how God connects religion and environment.'<sup>112</sup>

Similarly alumnus Irene Boateng held the view that:

The bible is neither in support of pollution nor deforestation. Since pollution or deforestation may harm the life of other creatures, it will be doing something against God. Bible sees it as not a good thing. Do I say sin? Because the bible says, we should love one another. The lecturer said that God gave the command for Adam to till the land and eat from it, but not to destroy it. Cutting the trees for use but not replanting is disobeying God's command. It is sin. For, you must do to others what you want others to do to you<sup>113</sup>.

I reason from these responses that both the alumni and continuing students participating in this research, perhaps, either deduced a sense of a call from the GNSP 101 or related their already possessed Christian knowledge with the course. In either case they realise the need to care responsibly for the Earth. Failure to do so is an ecological sin. This theological understanding of the students corroborates that of the Ecumenical Patriarch of Eastern Orthodox Church, His Holiness Bartholomew I. He referred first to anthropogenic degradation of the environment as ecological sin and challenges the Church to introduce the doctrine of ecological sin, with repentance covering damages to nature, if we care about our salvation as Christians.<sup>114</sup> Incidentally, it was during this time in the university that some students at Okwahu campus felt 'the lecturer was turning the environmental science class into a theological one'<sup>115</sup> to their chagrin.

During the next two academic years, 2011/12 to 2012/13, another lecturer, L-AB004, an agricultural extensionist, succeeded L-AB003 as the fourth lecturer at the Okwahu campus within the decade. L-AK001 remained the lecturer at Akuapem campus during this period. In an interview, L-AB004 submitted that in his teaching approach he sometimes introduced the subject with discussion on cultural and other ethical issues relating to the environment, such as the rationale for taboo of not fetching water from wells on some days; what Christians

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<sup>109</sup> Boateng, free conversation after interview session, Abetifi.

<sup>110</sup> Matilda Ayeltige, interview at Akropong-Akuapem, 8 May 2015

<sup>111</sup> Dorcas Colley, interview at Akropong-Akuapem, 7 May 2015.

<sup>112</sup> Lilian Okoree, interview at Akropong-Akuapem, 8 May 2015.

<sup>113</sup> Boateng, interview, Abetifi.

<sup>114</sup> Ecumenical Patriarch Bartholomew I, thro' Metropolitan John (Zizioulas) of Pergamon, 'Pope Francis' Encyclical Laudato Si': A Comment - Vatican, June 18 2015', Accessed, 19 June 2015, <http://www.goarch.org/news/metropolitanjohnpergamon-06182015>

See also Grim and Tucker, *Ecology and Religion*, pp. 101-102 who describe him as, the 'Green Patriarch' due to his exceptional leadership regarding environmental issues.

<sup>115</sup> This was the allegation of the students against the researcher. The Head of Department of Business Administration revealed this to him when he (HoD) was assigned to investigate the impasse between lecturer and students concerning delivery of the subject (GNSP 101), in 2009.

mean by cleanliness is next to godliness, and why dressing is morally an environmental issue. Thus, he reported integrating ethical issues in the lectures and discussion of field observations as necessitated by the topics.<sup>116</sup> However, students at this time who participated in this research could not testify to any references to bible or biblical texts integrated in the lectures. At Akuapem campus, six out of nine (66.7%) of the 2012/13 batch of students participating in the study did not remember the bible as a recommended textbook nor references to it or the Qur'an in the lectures. These six were actually not initially interested in the course; their responses did not also suggest they had any significant Christian ecological knowledge prior to the course. For Gina Ohemeng and Benjamin Siamen, they even wished that the course was struck out of their Rural and Community Development (RCD) programme, because 'it burden students unnecessarily.'<sup>117</sup>

The students at Okwahu could not explain why their lecturer did not refer to the bible, but one conjectured: 'Perhaps he did not want to offend the non-Christians.'<sup>118</sup> However, more significantly, the lecturer himself indicated that he was careful not to run into any problems with the National Accreditation Board (NAB). For, in an interview, he objected to any suggestion to teach the course with a categorical religious tone and emphasis on moral environmental responsibility of students. Although he was not against the moral formation aim of such a suggestion *per se*, yet he feared that it would be at variance with, or 'be a superimposition on', the accredited aim. He sees the accredited aim of GNSP 101 to be a simple environmental awareness creation through studying cognitive scientific facts, but not enforcing affective religious faith and ethics. As he put it, the religious tone must not be strongly emphasised 'because the National Accreditation Board may not see it as environmental science, but something else.'<sup>119</sup>

In other words, there was the fear of and caution not to appear 'superimposing' religion on a science course by seriously integrating faith in learning of facts so as not to lose the accreditation for the course, and/or face institutional legalities. A member of the first batch of alumni, Samuel Devine, also expressed similar fears and caution. Even a decade after studying the course he recommends that if religion be integrated in environmental science the facts or 'scientific part' should be more than the faith or 'religious tone.' Explaining he said: 'Since it is a science subject the scientific parts must be more, because environment has scientific [but not religious] laws, which explain its function.'<sup>120</sup> Eric Ankamah of the RCD at Akuapem campus holds same view and explanation.<sup>121</sup> They do not see any link between the 'scientific laws' in ecological science and their source and mandate in the sovereignty of the Creator God. Thus while some students regarded 'scientific fact' and 'religious faith' ideally not integrative, a lecturer wished the course was properly accredited before integration of faith in learning be allowed. In that case, it makes sense to infer that the lecturer's reported integration of religious and ethical thoughts in the environmental science course was, perhaps, casual and incidental rather than something strongly intended or directed to influence students' environmental responsibility. It was neither his aim nor way of teaching the course, for lack of accreditation. Hence he suggests that 'We must find a way of presenting the course so that, students are self motivated to develop attitude of environmental responsibility' by redesigning it to 'something else that must reflect the 3-H (Head, Heart and

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<sup>116</sup> L-AB004, interview, Pepease, 17<sup>th</sup> June 2014.

<sup>117</sup> Gina Ohemeng, interview at Akropong-Akuapem, 20 November, 2015; Benjamin Narh Siamen, interview at Akropong-Akuapem, 20 November, 2015.

<sup>118</sup> Martin Abban Eshun, interview, Abetifi, 13 October 2014.

<sup>119</sup> L-AB004, interview, Pepease.

<sup>120</sup> Devine, interview, Abetifi.

<sup>121</sup> Eric Ankamah, interview at Akropong-Akuapem, 8 May 2015.

Hands) educational principle of PCG.<sup>122</sup> The course title and content have to change accordingly to 'something else' other than just 'Environmental Science'. The new course needs to reflect its intention of religious mission and moral transformation, since the 'target of the course is to stimulate the minds of students for change in their attitude toward their environment.'<sup>123</sup>

Effectuating ecological attitudinal and behavioural change requires not just the mind's know-how, but more so 'transformation of the mind and heart,' by both religious adherents and those who appreciate spiritual dimensions of environmentalism.<sup>124</sup> Christian higher education, if holistic, means it does not simply have to communicate knowledge or eradicate illiteracy but more importantly, emphasise the human formation in values and morally responsible relationships.<sup>125</sup> Particularly concerning moral environmental responsibility, Grim and Tucker have shown that neither scientific facts nor civil regulations, but a 'synthesis of religious ecology and ecological knowledge [science]' is what is required.<sup>126</sup> Boong-Ho Son describes it as pursuing science and scholarship from a biblical perspective as an integral part of believers' total commitment to God<sup>127</sup> with a hope of moral transformation.

#### **7.5.4 Evidence of Moral Transformation: Creation Care Tendencies of Students**

Bryant Myers' guide for assessing transformational development includes the extent to which people change and recover their God-created identity and vocation, which manifests, usually, in changed or changing relationships characterised with moral responsibilities that ensure justice and peace. This includes relationship with the environment. In addition, when knowledge, understanding and skills, do not lead to faith in God and development of good morals in one's relationships, it is not being wise (Ps. 53.1) - not yet learning.<sup>128</sup> With these ideas, I assessed the extent to which the teaching and learning of environmental science as a core or mandatory subject tended to influence students' self-understanding and motivation as disciples of earthkeeping, from interview responses. I assessed the impact for the (a) first six years of 2003-2009 and the (b) last four years from 2010 to 2013, inclusive.

##### ***(a) Students' Self-understanding and Tendencies of Earthkeeping from 2003 to 2009***

According to L-AB001, the impact of the course on students was to be assessed, among others, 'through interaction, observation, and execution of micro projects on the environment.'<sup>129</sup> Thus for the 2003/4 to 2005/6 academic-years when he was the lecturer, he reported, in answer to the question 'What influence do you think GNSP 101 had on your students?' that 'I noticed that there was a conscious effort to keep the campus clean'<sup>130</sup> He was sure of this because, for instance, 'When lecture rooms were not cleaned, students complained.'<sup>131</sup> However, that students only complained against pollution around them without actions to improve the situation may suggest a cognitive impact more than an affective impact. Through the study they became aware of and concerned about pollution, but had no moral motivation within them (inner or attitudinal impulsion) to act in keeping the

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<sup>122</sup> L-AB004, interview, Pepease.

<sup>123</sup> L-AB004, interview, Pepease.

<sup>124</sup> Grim and Tucker, *Ecology and Religion*, p. 168.

<sup>125</sup> Bangladesh, III-2, 'Dimensions of Integral Human Development.'

<sup>126</sup> Grim and Tucker, *Ecology and Religion*, p. 157.

<sup>127</sup> Son, 'The relevance of Christian approach', p. 2.

<sup>128</sup> Holmes, *Building the Christian Academy*, p. 6.

<sup>129</sup> L-AB001, interview, Kumasi.

<sup>130</sup> L-AB001, interview, Kumasi.

<sup>131</sup> L-AB001, interview, Kumasi.

campus clean. It is inferable from Grim and Tucker that an effective transformative environmental ethical education must aim at both what human being *is* (attitudinally) and what human being *does* (behaviourally).<sup>132</sup>

It appears, however, that the lecturer was not opportune to make a more thorough assessment of the influence of the course on students than he reported. For some of his students reported experiences beyond just awareness and concern due to environmental knowledge gained. Alumnus Samuel Devine (of 2003/4 class) remembered how moved he was by the course. He and some of his mates voluntarily assisted campus ground workers in watering the greening project at the time. They even intended, but failed due to lack of guidance, to be disciples of environmentalism by forming an environmental club. The alumnus recounted that

I knew that my actions can affect that same environment positively or negatively... Some of us therefore wanted to start an environmental action club but our zeal lacked direction and could not be realised. However, we engaged in watering the flowers around, because we were few... We also tried to avoid littering and [rather] clean litter around us. It shows we appreciated the worth of the course and the impact on us to secure a future for one that is yet unborn.<sup>133</sup>

Another alumnus, Martin Amaniampong (of 2004/5 class), claimed 'my attitude to the environment changed'. Nevertheless, he appears more of expressing his awareness from the knowledge gained than how his attitude and behaviour actually changed in practice. He said:

Before the course I did not know how precious the environment should be treated. After the course I see that I should be friendly to it. After the course my attitude to environment changed. For everything I do is in the environment. The attire I wear is from the environment; the house has trees cut from the environment; book you are writing on is from environment.<sup>134</sup>

Yet he was very certain that most of his year mates did not even gain any practical environmental awareness because they did not see the relevance of the course, let alone to talk of any resultant motivation for attitude and behavioural change. For he himself, 'the relevance of the course GNSP 101 to the programme of study', Accounting in this case, lies in the fact that finance departments suffer the brunt of mobilising funds to deal with any corporate environmental challenges or hazards resulting particularly from ignorance or negligence of staff of a company. Environmental consciousness of the accountant may enhance influencing caution and financial decisions related to environmental issues to prevent collapse of the company. As he put it,

for the accountant the environmental problem has implications, since the finance department would be tasked to look for the money to resolve the environmental problem caused... Even if the money is secured the cost of the environmental problem solving increases the overhead production cost; profit will lower and so salaries payment run into difficulty; workers may be laid off and the business is on the way to collapse.<sup>135</sup>

Yet asked if all his class mates also had this self-understanding about environmental concern and care in Business Administration he responded,

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<sup>132</sup> Grim and Tucker, *Ecology and Religion*, p. 105.

<sup>133</sup> Devine, interview, Abetifi.

<sup>134</sup> Amaniampong, interview, Abetifi.

<sup>135</sup> Amaniampong, interview, Abetifi.

No. Majority of my mates did the course because it was a core, [mandatory]; they did not see the practical implications for business. So all they did was to chew, pour, pass and forget. They see themselves as non-science students, yet must pass and improve on their GPA, with no practical relevance.<sup>136</sup>

Apparently, this alleged attitude of the majority of the Business Administration students was similar to that of students in the ICT/Maths department. For alumnus Bright Korang-Yeboah of the 2006/7 ICT/Maths class reiterated a similar story. He personally saw 'nothing in the course that links [him] to the environment' nor did he see 'the essence of the course in relation to the ICT that [he] came to study.'<sup>137</sup> He was certain that

Those of us in ICT saw it only as an unnecessary compulsory course to be done for doing sake. We wanted it to be over early so as to have time for our programming and networking.<sup>138</sup>

Knowing that these testimonies are true, from my personal experiences as the next lecturer immediately following this period, it is highly inferable then that a significant proportion of the students partaking in the environmental science course were not self-motivated enough for environmental responsibility. This further supports the earlier conclusion of inadequate religious and ethical emphasis in teaching the course. Hence, any reported tendencies to keep the environment may be due rather to an awakening of the basic pre-course religious ecology of the reporting students. In other words, some students perhaps had substantial previous religious orientation to environmentalism, which the scientific learning reminded them of to revisit. Indeed, the assumption that students had some basic previous religious ecological orientation to make them appreciate it the more at university undergraduate level was behind the minor changes in the goal and approach to teaching the subject in the last four years of the decade (from 2009/10 to 2012/13 academic years).

#### ***(b) Students' Self-understanding and Tendencies of Earthkeeping from 2009 to 2013***

During the 2009/10 to 2010/11 academic years, I was the lecturer. Like my predecessors I did not take the trouble to critically assess the impact of the course on students. However, it was obvious that quite a number of the students at this time also attached little seriousness to the subject. For instance, in 2009/10 academic year, two students, who, among many others, failed the course, later did very well in a re-sit. This was after receiving academic counselling from the lecturer. In the process they confessed how they had initially taken the course for granted as irrelevant, because of the discouraging comments of their seniors. Alumnus Irene Agyapomaa Boateng who read this course in the 2010/11 academic year recalled that

In level 100, we knew that we needed to go to lectures to be able to make our grades, but only those who were generally serious for acquiring knowledge in the university would attend all lectures. The others did not. Moreover, the course [GNSP 101] was only two credit hours and would not affect their GPA very much. So many of us thought we could pass it without attending classes.<sup>139</sup>

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<sup>136</sup> Amaniampong, Interview, Abetifi.

<sup>137</sup> Korang-Yeboah, interview, Abetifi.

<sup>138</sup> Korang-Yeboah, interview, Abetifi.

<sup>139</sup> Boateng, interview, Abetifi.

Neither did students' negative attitude toward studying GNSP 101 change between 2011/12 and 2012/13 academic years when lecturer L-AB004 succeeded L-AB003 at Okwahu campus.<sup>140</sup> Most of the students still tended to disregard the relevance of the GNSP 101 course. Mary Armah of the Business management Department personally liked the course, but was unhappy most of her mates disliked it thinking 'how can business student be asked to learn science.'<sup>141</sup> However, the negative outlook on the course was highest among ICT/Maths students. Sally Agyebea from Agribusiness Department had this to say: "The ICT students used to sit behind and make so much noise during lectures, because, they did not like the course or the lecturer. Why? I can't tell. For sure, I remember it was the ICT guys who were not interested and making noise during lectures. I think they did not see the relevance of the course to their programme."<sup>142</sup> Agyebea's observation was confirmed by some of the ICT continuing students who participated in the research. Bismarck Asante sees his mates who lacked previous science background as those mostly disinterested in GNSP 101;<sup>143</sup> they were always saying 'the course is difficult.'<sup>144</sup> On his part, Courage Elorm Kofie boldly confessed, 'those of us who didn't see relevance of environmental science were more than those who saw it. My mates and I did it only because it was compulsory; if we had the chance, we would not have done it, because we found no relevance for it.'<sup>145</sup> Jeffery Boamah felt initially the course was unnecessary for them who already had science background, until towards the end.<sup>146</sup>

The responses from Akuapem campus were no different. I have reiterated earlier that six out of nine 2012/13 batch of students participating in this research were actually not initially interested in the course, and two of them categorically wished the course was struck out of their Rural and Community Development (RCD) programme.<sup>147</sup> L-AB004, the lecturer at Okwahu campus commenting on the attitude of students during this period recalled that 'generally, almost all of them tended to object to the course as a core for them initially. They feel it should be for those pursuing Science-related programmes. However, later as the course progresses, particularly towards the end, about seventy-five percent (75%) tend to like and want more of it. By then it is too late!'<sup>148</sup>

L-AB004 noticed this change in attitude from students' answers to his questions and their questions to him during revision week just prior to end of semester examinations. The implication remains the same as was when I taught the course two academic years earlier. In both periods, the majority of the students lacked the self-motivation to give serious attention to the course until the last few weeks. What mattered to them even in the last weeks was only how to get a pass mark eventually in the exams to get rid of the 'unnecessary burden' finally.

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<sup>140</sup> The following responses from students give evidence to this inference: 'I was enthusiastic but...The general response of my colleagues to the course was appalling. They simply took it as a theory and did not take it serious and it was sad. Those who were disinterested were more than those interested.' [Martin Eshun, Agribus]. 'I know [that my mates did not like the course ] because when the teacher gave assignment in groups, they waited for others to do before they would copy and even do that copying just a day before submission, just to get some mark and pass. It was only two credit hour subject; so it was not important. They focused on three credit hour subjects. If you have 10 in a group only two would seriously do it for the others to copy and make a few changes before presenting.' [Anamaria Mpanga, ICT]. 'Some students did not see the need for it. Even I did not initially until later when things were made down to earth...I am not sure but maybe about 80% liked and 20% did not.' [Lily Amponsa-Asiedu, HRM].

<sup>141</sup> Mary Armah, interview at Abetifi, 22 September, 2015.

<sup>142</sup> Sally Agyebea, interview at Abetifi, 13 October, 2014.

<sup>143</sup> Bismarck Asante, interview at Abetifi, 6 October 2015.

<sup>144</sup> Joseph Nkansa Kyeremanten, interview at Abetifi, 6 October, 2015.

<sup>145</sup> Courage Elorm Kofie, interview, Abetifi, 13 October 2014.

<sup>146</sup> Jeffery Boamah, interview at Abetifi, 6 October, 2015.

<sup>147</sup> Gina Ohemeng, interview at Akropong-Akuapem 20 November, 2015; Benjamin Narh Siamen, interview at Akropong-Akuapem, 20 November 2015.

<sup>148</sup> L-AB004, Interview, Pepeace.

In short, there seemed not enough from the course to self-motivate or stimulate most of the students to rise beyond the level of cognition to affective commitment to moral responsibility for the environment. As L-AB004 lamented,

... for me, the issue is how to get our students to imbibe, internalize and apply the truth we teach them about the environment as they turn out as graduates or scholars. It is surprising to see students who have undergone environmental science studies see a waste bin and drop their litter around instead of into the bin. We conducted a cursory check on some of them and noted this behaviour. Well, some explained that the bin was full up when they dropped the litter around on the ground. Yet I know that for a good number of them, they do not exhibit natural consciousness of environmental keeping [despite the course].<sup>149</sup>

Does that mean that even the few reported religious ideas integrated in the course did not serve as a motivator for exhibiting that 'natural consciousness of environmental keeping'? When asked 'How do students respond to the cultural and religious views or aspects of the science course?' the lecturer said, 'They see references to the cultural and religious implications of the course as [just] pieces of advice given to them about how to relate with the environment.'<sup>150</sup> This suggests that both the content and the delivery of this subject (GNSP 101), lack strong missional motivation or impulsion for creation care for most of the students.

Nevertheless, among the few serious ones were some on whom the course, perhaps, had some positive moral effects. There was, at least, an occasion when, providentially, I saw a first-year male student, Francis Sefa,<sup>151</sup> who was walking at a close distant behind two female third-year students near the university entrance. Francis picked up the banana peels dropped unthinkingly by the ladies on the street in front of the entrance. Intrigued by his action I invited him for interview. He was not only surprised that I saw him from afar, but also why I should not expect him to act as he did after all that he had learnt earlier in the year (2010) concerning the import of studying environmental science as a Christian. He explained 'Knowing what is good and failing to do it is a sin.' In my view this was a self-understanding and evidenced environmental responsibility, although just one out of two hundred who studied the course in 2009/2010 academic year. Similarly, commenting on the one-semester duration of the course in an interview, alumnus Irene Boateng appreciated the effect on her attitude concerning keeping the aesthetic value of lawns in the one semester, and felt it could, perhaps, be more impacting with longer duration. She said:

Even with the little I got in a semester, I find it difficult to walk on lawns now, so as not to disturb the habitat of other creatures on the lawn. When I was in the SSS I did not see anything wrong with walking on or across a lawn. We made our own pathways across lawns.<sup>152</sup>

Anamaria Mpanga, a foreign student from Equatorial Guinea was poised to start publishing articles against deforestation from Christian perspectives. Actually she had a great flare for studying environmental science as a major programme, having been influenced by her father, a Presbyterian minister's preaching. Though circumstances denied her that opportunity the

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<sup>149</sup> L-AB004, Interview, Pepease.

<sup>150</sup> L-AB004, Interview, Pepease.

<sup>151</sup> I learnt later his name is Francis Sefa. He is of gentle and unassuming character; the son of a medical professor at Korle Bu, and so from a noble family considerable to be of high social class by Ghanaian standard and outlook. It would be generally uncommon for a ward from such a family naturally to do what he did.

<sup>152</sup> Boateng, interview, Abetifi.

little she had from the one semester course (GNSP 101) enhanced her zeal for ecological action back home. She would do this at the risk of possible political victimisation, because the government does not favour environmentalism.<sup>153</sup> Two other students also responded positively as follows:

I was not used to turning off the cylinder regulator, but after the course, I have made it my habit to do so to avoid leakage and fire outbreak.<sup>154</sup>

I have become careful how to drop my empty polythene sachets around in order not to block the life of things in the earth.<sup>155</sup>

Thus in spite of the apparent irrelevance of the environmental science general course to most of the students, and hence their disinterest and non-serious attitude towards it, a few reported the course's impact of moral responsibility for the environment in their own small ways. However, the fact remains that the course appears to lack a significant achievement regarding education as holistic mission and for moral transformation, particularly in the teaching and learning process. A gap exists between theory and practice or mindset and commitment to mindset due mainly to, among others, lack of emphatic integration of religious thoughts, especially Christian theological and environmental ethics in the design and delivery of the course. An alternative curriculum then needs to be developed with emphasis on practical religious ecology. To this end I propose an African theocology curriculum for PUCG, but which I believe can be worthy of consideration by other African Christian higher educational institutions. As earlier explained in chapter one African theocology is a religious ecology and though similar in many respects to ecotheology, yet I proposed the inversed name for various conceptual reasons.

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<sup>153</sup> Anamaria Mpanga's testimony is as follows: 'In Africa, people don't value environmental science. The way I see it is that we Africans are careless about the environmental pollution; we know the good but will not do it even if failure is affecting our neighbours. In my country [Equatorial Guinea] people don't see the environment as something good that we must keep. They just like it and use it but don't care about maintaining it. So no-one bothers about deforestation or pollution; except those who travel out of the country; they upon return show some concern about the environmental cleanliness. For majority it is a free world and no one is to check anyone. Most are on the side of the government.' Concerning knowledge of primal religious ecology she responded: 'Yes. I learnt that here in Ghana in some places people cannot go swimming in the sea on Tuesdays. I don't know the meaning why, though. And it doesn't make sense to me.' When questioned whether it is sensible that such taboos are meant to help sustain the environment she responded in affirmation, wondering: 'Perhaps, in Equatorial Guinea because we don't have such taboos people just destroy the forests. About 80% of trees are cut. Now they are replanting the forests with artificial plastic trees. I think we are just lazy; not wanting to have foliage litters on the street to sweep.' Asked what she will do having learnt GNSP 101 she replied: 'I will advise them not to cut trees and not to destroy forests but it is difficult if you are not in the government. No one will listen to me. It is a small country. You may even be victimised as speaking against the government who allows the use of forest resources for the country's development. Those who write send their family outside and they themselves do not return to the country. So if I want to work I must be in the Ministry of Environment so that you hide behind the ministry to speak. You must also show you have certificate for it.'

<sup>154</sup> Lily Amponsa-Asiedu, interview, HRM, Abetifi.

<sup>155</sup> Eshun, interview, Agribus., Abetifi.



## 7.5 African Theology and Ecotheology: Comparative Concepts and Concerns

African theology as envisaged and the conventionally known ecotheology are comparative in terms of their ultimate purposes and major thematic contents, because they are conceived as subsets or corollaries of the theology of nature. The purpose of theology of nature, and hence theocology and ecotheology, is to emphasise knowing and relating with the Earth from God's perspective as revealed in the scriptures. This is contrary to natural theology, which assumes, rightly though, that God can be known by observing his works in our natural ecosystems. The difference, in simple terms, lies in the direction of the learning approach and the end-knowledge gained: natural theology begins with nature to know God; theology of nature begins with God to know nature. Contrasting theology of nature and natural theology Solomon Victus explains:

Natural theology begins with God's revelation in nature and proceeds to construct knowledge of God. It assumes that contemplation of the natural order will bring one to realize that the Universe must have had a cause exterior to itself, and then on further examination to appreciate and understood (sic) the mind of the Creator. A theology of nature, on the other hand, begins with the revelation of God in scriptures, and from it constructs an understanding of nature. Natural theology is atomistic, beginning with the parts and working to the unifying principle. A theology of nature is holistic, beginning with Christian theism and integrating all the parts.<sup>156</sup>

The contents of ecotheology, like African theology, encompass mainly questions about creation, ecology and human responsibility.<sup>157</sup> Both disciplines are thus characterised by:

1. recognition of God as creator, sustainer and redeemer of creation<sup>158</sup>
2. the idea of divine (transcendence and yet) immanence in the whole cosmos;
3. a relational, ecological rather than a hierarchical understanding of God, humans, and the created world;
4. a radically reinterpreted view of human dominion over nature in terms of partnership with nature;
5. a commitment to justice for all creatures, not just humans, highlighting the needs of the impoverished masses and endangered species around the globe, (as revealed in or interpreted by the scriptures); and
6. deriving theological concerns of ecosystems from the grass root experiences of Christians (and, other religious adherents) around the world.<sup>159</sup>

Thus both African theocology and ecotheology are alike, belonging to the emerging field of ecology and religions and as corollaries of theology of nature.

However, my argument for the use of theocology for the envisaged alternative to environmental science is because of some conceptual differences and concerns. The first concern is the dilemma of locating ecotheology in the field of the sciences for purposes of being an alternative to environmental science. This dilemma stems from the attitude and arguments of some teachers and non-theological students regarding the integration of Christian thought in the study of Environmental Science (GNSP 101) at PUCG. While students saw the integration of theology as turning a science subject into a theological study

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<sup>156</sup> Victus, *Eco-Theology and the Scriptures*, p. 8.

<sup>157</sup> Victus, *Eco-Theology and the Scriptures*, p. 10.

<sup>158</sup> This idea is my additional emphasis in African theocology. The following five are from the source below.

<sup>159</sup> "Ecotheology." *Encyclopedia of Science and Religion*. . accessed 9 November 2017, from Encyclopedia.com: <http://www.encyclopedia.com/education/encyclopedias-almanacs-transcripts-and-maps/ecotheology>. The ideas in parenthesis are additional emphasis of African theocology.

some teachers feared that the course will lose accreditation and/or considered illegal as a scientific study if a theological motif is encouraged in it. In that case the name 'eco-theology' as an alternative to environmental science may aggravate the objection of students and strengthen the fears of teachers. For, indeed, the name appears and sounds on the surface as more of a theological rather than an ecological science subject, and belongs to the academic field of theology more than ecological science.

Solomon Victus states that ecotheology is 'fundamentally a contextual *theology*'.<sup>160</sup> It emerged in response to twentieth century (1960s) ecocrisis which was created by the free market economy, neo-liberal economic policies of states and corporate sectors, particularly in the West; and which resultantly commoditised nature for profit making.<sup>161</sup> In this respect 'ecotheology speaks about a *theology*'<sup>162</sup> and hence studied as 'a form of constructive theology'<sup>163</sup> rather than as an *ecological science*, though 'it speaks from the perspectives of creation, ecology and human responsibility'.<sup>164</sup> When the Protestant theologian Joseph Sittler, first publicised 'ecotheology' as an academic discipline he considered it as a theological construct and so called it 'a new theology of grace that included rather than excluded nature'.<sup>165</sup> In other words, 'ecotheology describes theological discourse that highlights the whole "household" of God's creation, especially the world of nature, as an interrelated system (*eco* is from the Greek word for household, '*oikos*').<sup>166</sup>

Ecotheology is studied with various ideological positions and pedagogical approaches, including ethical positions such as anthropocentrism, biocentrism, ecocentrism and theocentrism; and approaches such as Process theology, Eco-feminism, Tribal theology and Animal theology.<sup>167</sup> In all cases, the emphasis of the approach is on *theology*. Therefore, the picture might be different for non-theology students and lecturers in an ecological class by inverting the order of the name from 'Eco-*theology*,' considered and approached as a theological course, to 'Theo-*ecology*,' designed to be delivered as an ecological science, but with emphasis on religious worldviews for the sake of holistic comprehension and stimulation for moral and missional eco-praxis. It is a study to explore 'divine-human-earth relations'<sup>168</sup> and not earth-human-divine relations.

My second concern and reason for inverting the name follows after and is an expansion of the the first. As explained earlier, eco-theology is not 'natural theology' (knowing God from nature), but rather 'theology of nature', (knowing nature from God's perspective).<sup>169</sup> Yet the prefix beginning it is 'eco-', which implies 'our natural home', and tends to render eco-theology, at least from its nomenclature, similar to 'natural theology'. In that case the name contradicts the purpose, content and the emphasis on beginning the study 'from God's perspective' as creator. By inverting the word to 'theo-ecology' so that the name begins with the prefix '*theo*-' and ends with the suffix '*ecology*', the name more readily connotes the direction of study as from God's perspective on ecology. It is designed a Christian missional and transformative curriculum, and hence, based on *missio Dei* (the mission of God). But 'the

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<sup>160</sup> Victus, *Eco-Theology and the Scriptures*, p. 10.

<sup>161</sup> Victus, *Eco-Theology and the Scriptures*, p. 10.

<sup>162</sup> Victus, *Eco-Theology and the Scriptures*, p. 10. Italics emphasis mine

<sup>163</sup> 'What is ecotheology?', accessed on 9 November 2017, from <https://www.youtube.com/watch?v=04-KyAN03Kg>

<sup>164</sup> Victus, *Eco-Theology and the Scriptures*, p. 10.

<sup>165</sup> "Ecotheology." *Encyclopedia of Science and Religion*.

<sup>166</sup> "Ecotheology." *Encyclopedia of Science and Religion*.

<sup>167</sup> Victus, *Eco-Theology and the scriptures*, p. xvii.

<sup>168</sup> Tucker and Grim, 'Series Foreword,' *Islam and Ecology*, p. xxiv.

<sup>169</sup> Victus, *Eco-Theology and the scriptures*, p. 8.

mission of God starts with God.<sup>170</sup> Thus by inverting the name I hope to emphasise the curriculum as still 'environmental science' or specifically 'ecological study' except that theocentric worldview emphatically underpins it and, as much as possible, is interpreted with scripture or from theological perspectives. It is not a study of God from nature, though this is implicit; rather it is a holistic study of our natural home, the Earth, and our moral and missional responsibility to it, from God's perspective.

The adjective 'African' places the conception of 'theocology' in its own genre. 'African' emphasises the view that it is advantageous for students of ecological studies in Africa to appreciate ecological phenomena and categories in their natural or indigenous African cultural contexts as substratum. I infer from both Agbanu and Curry that previous cultural experience of valuing the natural environment is a necessary factor fundamental to appreciating scientific conceptions thereafter.<sup>171</sup>

Additionally, African theocology is envisioned as characteristically not only a Christian theistic, but also a holistic missional approach to ecological study. That is, it hopes to motivate both students and teachers to engage in concerted ecological actions within God's creation-care mission, with and among the whole of humanity, irrespective of confessional differences. Patrick Curry encourages resolving ecological challenges best by forging ideological alliances in pluralistic contexts when there is a real potential common ground on a particular issue.<sup>172</sup> Therefore, African theocology curriculum is envisaged to emphasise shared religious and moral ecologies of Primal, Christian and Islamic traditions, from an African perspective. I seek to find out any common grounds among the three traditions, as well as limitations within each, as they converge around the issue of ecocrisis<sup>173</sup> and, hence, creation care. It is not strictly a comparative religious study, yet the findings are reported in a comparative style under themes for easy appreciation of commonalities. In short, the information assembled is an attempt to display the symbolic richness regarding attitudes toward nature<sup>174</sup> within the three major religious traditions in the ecological area. It is to celebrate plurality by raising to conscious awareness multiple perspectives regarding God, humanity and planet Earth. As its philosophy, the African theocology curriculum is to demonstrate that despite a perceived gap between religions, all faiths share a common ethic based on harmony with nature and care for creation.<sup>175</sup> Said differently, African theocology is not to promote syncretism or 'bland fusion of perspectives,' rather in view of its pragmatic and missional concerns, it seeks to 'encourage every Christian to engage into some ecological action along with other concerned people, whether they belong to other religions or to

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<sup>170</sup> Chris J. Wright, 'Holistic Mission: What is holistic mission and where do we start?' (Lecture delivered on 7 May 2012, to Wycliffe Global Alliance,) [posted 09-2012] and accessed on 7 November 2017, <http://www.wycliffe.net/missiology?id=2723>.

<sup>171</sup> Agbanu, interview at Legon, 23rd November 2015 opines 'In fact I don't see how environmental science can be taught in a vacuum. It must be taught with people's understanding of the environment [and how it functions] from their indigenous cultural context. Then science can help them to improve on it.' In addition, Curry, *Ecological Ethics*, p 174 believes that global ecological ethics 'must be encouraged and articulated on the basis of what is ecological and ethical in what people already value, know and do where they are.'

<sup>172</sup> Curry, *Ecological Ethics*, p. 156.

<sup>173</sup> Tucker and Grim, 'Series Foreword' to Richard C. Foltz, et al., *Islam and Ecology*, p. xxii explain that cultural particularities and diversities are associated with world religions. Like them I aim not to 'borrow or adopt ideas and place them from one tradition directly into another' as if to create 'a bland fusion of perspectives' or 'a unified worldview and ethic.'

<sup>174</sup> Tucker and Grim, 'Series Foreword' to Richard C. Foltz, et al., *Islam and Ecology*, p. xxii.

<sup>175</sup> Adnan Z. Amin, 'Preface to Islam and Ecology' in Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin, eds., *Islam and Ecology*, (USA: Harvard University Press, 2003), p. xxxiv echoes this realisation from the United Nations Environment Programme (UNEP), through its Interfaith Partnership for Environment (IPE).

secularism or other ideologies.<sup>176</sup> In this case, people of the Primal and Islamic religious traditions constitute the other major religious people in Africa, and whose cosmologies and ecologies I proceed next to study.

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<sup>176</sup> Victus, *Eco-Theology and the Scriptures*, p.10.

## CHAPTER 8

### THE SOKPOE-EUE RELIGIOUS WORLDVIEWS OF *XEXEME* (CREATION) AND *AMEGBETO* (HUMANITY)

#### 8.1 Introduction

The African theology curriculum that I proposed in the previous chapter hopes to motivate environmental morality relatively more effectively than the current Environmental Science (GNSP 101) at the Presbyterian University College, Ghana (PUCG). But PUCG, though a Christian institution, is a plurally religious academic eco-community. To fulfill PUCG's missional environmentalism purpose at PUCG, the proposed curriculum needs to have the potential to influence concerted religious ecological actions. This requires sharing common experiences on particular issues from religious cosmologies and ecological ethics in Ghana. The aim of this chapter is to retrieve, re-evaluate and, where possible, reconstruct the Sokpoe-Eve religious cosmologies - their concepts of the origin of planet Earth and all its human and nonhuman occupants. The Primal, Christian and Islamic cosmologies thus analysed will be practical instances of what undergird real daily experiences of religious ecological relationships in a Ghanaian, and hence African context. The issue/area interrogated is participants' concepts of *xexeme* (creation or the cosmic environment); it is to appreciate what they understand and refer to in daily ecosystemic life experience as *xexeme*; its origin, structure and occupants. Particularly, I seek to know their religious anthropologies and how humans' nature predisposes them to relate with and in an ecosystem as they do.

#### 8.2. Creator and Creation in Primal, Islamic and Christian Religious Traditions

From everyday experience the study presumed *xexeme* as the ecological term that readily translates the English words 'creation' or 'world' as 'environment'. The Sokpoe-Eve, however, have challenges in explaining *xexeme* because it has more than one usage. When asked, 'what is *xexeme*?' Enyi Avenorgbo, a primal religionist, responded: '*nye matejuatsɔ asi aɔo xexeme dzi tutu o*' (I cannot put fingers on what *xexeme* is exactly).<sup>1</sup> A similar observation is reported by Agbanu from his studies of the cosmic structure in the view of the Mafi-Eve in North Tɔɔɔ.<sup>2</sup> Nevertheless, in the current study, the Sokpoe-Eve use the term in daily life in both cultural and geographical contexts. Culturally, *xexeme* is *agbebaɔanɔnɔ* meaning detestable human ways of life or behavioural responses to situations in an eco-community. Geographically it is *agbenɔfe* meaning the habitat or place of life.<sup>3</sup>

That *xexeme* connotes an eco-cultural ethos in the minds of respondents interviewed from the three religions in the Sokpoe-Eve eco-area may be evidenced in some of their Eve literary expressions. Amega Enyi Avenorgbo, illustrated it with the expression '*xexeme gblɛ evɔ xexeme mele dzedzem mia kpɔ o*.' That is, '*xexeme*' is deteriorating though it is not visible

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<sup>1</sup> Enyi Avenorgbo, interview at Elavanyo, 2 February 2016. He said '*Nye mateju atɔ asi nusi xexeme nye la dzi koy o*.' That is, 'I cannot put fingers on what exactly *xexeme* stands for at a go'.

<sup>2</sup> Agbanu, 'Environmental Ethics in Mafi-Eve Indigenous Culture', p. 95.

<sup>3</sup> Abdullah Muhammad, interview at Sogakɔfe, 5 April 2016. He is the Zongo *sarechi* (the Zongo chief).

to us.<sup>4</sup> He explains the statement as referring to one's discontentment and discouraging feelings about peoples' negative relational attitudes to and/or behaviours that suggest things are not as good as before in the eco-community. Muslims like Adiza Garba, Memuna Kudi, and Idrisu Ibrahim, in separate interviews also perceive *xexeme* as our way or conduct of life that can determine future destiny to be either desirable or objectionable. Adiza Garba, for instance, explains it saying that 'xexeme' means being careful how we live and taking steps to ensure a good future for us,<sup>5</sup> which according to Ibrahim Idrisu, will result from complying with all that *Mawunya* (God's word) teaches us.<sup>6</sup> In other words, unless one is careful to live according to God's laws of life the resultant lifestyle is that of *xexeme*, and hence detestable. So at death our *xexeme* ends and we go into God's judgement thereafter<sup>7</sup> in the Last Day with eternal consequences in either '*janna* (heaven) or *jahanna* (hell).<sup>8</sup> Similarly, the Christian participants explain *xexeme* as the lifestyles of people, ways considered usually contrary to those expected of Christians, and so negative enough to be rejected or avoided in preference to going to *dzifo* (heaven), the holy abode of *Mawu* (God).<sup>9</sup> Using an etymological approach, Rev. M. K. Adikpe, a retired Presbyterian minister, explains it as that manner of living, which makes one feel spiritually *xixa* (narrowed or hemmed in) even in the open vast physical arena,<sup>10</sup> because one is out of tune with God's moral laws of ordered life and consequently awaits eschatological judgement.<sup>11</sup> People who do not organise life around biblical and Christian ethical doctrines are called *xexemetwo* or *egodotwo* (those outside Christianity).<sup>12</sup> In addition to negative life style, *xexeme* also connotes discomfoting environmental situations. I remember a close relative, an asthmatic, who when suffering from an attack after a respite from a previous bout, would lament '*nye xexemee ga vlu*' (literally, my *xexeme* [asthmatic condition] has gone wild again). Thus both the deterioration of behaviours and worsening human life conditions as issues pertaining to eco-cultural life of a people, are referred to as *xexeme*, implying cultural phenomena that are unacceptable or unwanted.

In the early twentieth century, Westermann Dietrich, a German missionary working among the Eve ecological communities in West Africa, made a similar observation in his *Gbefiala* (Eve-English Disctionary).<sup>13</sup> On one hand, *xexeme* is culturally the ways and/or conditions of human life on Earth under the sky, which are more or less undesirable. He noted that when life presents abnormal occurrences that are either existentially threatening or are relationally disgusting to society it is because *xexeme le gbegblēm* (*xexeme* is getting bad or spoilt). Westermann translates *xexeme* in this sense as 'fate' or life situations, which are *tōtrōm* (changing with the times) in the direction of *xexeme gbegblē* (spoiling world).<sup>14</sup> Thus, the first ecological usage of *xexeme* in the Sokpoe-Eve religious worldviews is any culturally unacceptable or detestable life situations in the eco-community.

<sup>4</sup> Enyi Avenorgbo, interview at Elavanyo, 2 February 2016.

<sup>5</sup> Adizah Garba, interview at Sogakofe, 12 April 2016. See appendix 3. Others holding similar views at Sogakofe include Idrisu Ibrahim, 23 April 2016; Memuna Kudi, 13 April 2016; and Abdullah Mahmud, interview at Dabala, 25 May 2016.

<sup>6</sup> Idrisu Ibrahim, interview at Sogakofe, 23 April 2016.

<sup>7</sup> Imam Mahmud Abu Bakar, interview at Sogakofe, 5 April 2016.

<sup>8</sup> Azumah, *My Neighbour's Faith - Islam Explained for Christians*, p. 33.

<sup>9</sup> James Cudjo, (COP), interview at Sokpoe, 26 June 2016.

<sup>10</sup> M. K. Adikpe, (PCG) interview at Mefe, 2 June 2016.

<sup>11</sup> Matthew Agbattor, (DHC), interview at Sokpoe-Bodzodife (Vogome), 24 February 2016.

<sup>12</sup> Gladys Ahado, interview at Sokpoe, 26 June 2016.

<sup>13</sup> Dietrich Westermann, *Gbefiala or Eve-English Dictionary*, (Berlin: Dietrich CE Voshen, 1930).

<sup>14</sup> Westermann, *Gbefiala or Eve-English Dictionary*, (1930). 'spoilt world' in the original. (*Xexeme le gbegblem* actually refers to living conditions, socially, religously and ecologically not in tandem with how the creator purposes it to be, at least per their worldview).

On the other hand, *xexeme* is ecologically considered by the primal people in the study as *agbenɔfe* (Eve) or *dunia* (Hausa), the space made by *Mawu Sogbolisa* (God/Allah) for inhabitation by humans.<sup>15</sup> The Muslim and Christian participants also affirm the same and that God/Allah is creator of *xexeme*. Memuna Kudi is a Muslim. Answering a question about the origin of *xexeme* she replied in Hausa: "*Awusatɔwo gblɔ be 'Allah ne dunia muke chiki' alo 'Allah shine dunia.'"* That means 'the Muslim says God created the world and we are in it' or simply 'the world is God's'.<sup>16</sup> Her views correspond with those of Islamic theologian Özdemir, who debunks, rightly from Islamic theological perspectives, the notion that nature is the result of accidental evolution or chaotic configurations.<sup>17</sup> The Christians in this study had no different views; the origin of *xexeme* is *Mawu* (God) as submitted, for instance, by Mercy Akafo.<sup>18</sup>

The respondents from all three religions showed that God himself is not created; and lives high above *xexeme*. He has power, however, over, relates to and communicates with the Earth. For the primalists God's ecological concerns are mediated and eco-ethical regulations enforced through his *trɔ̃wo* and *trɔ̃nuawo* (deities and their agents).<sup>19</sup> Kwame Bediako asserts that for primal cosmologies the Supreme Being appears alienated from earthly phenomena, but is 'the Sustainer of the universe'<sup>20</sup> perhaps doing so through what Kalu calls the minor divinities.<sup>21</sup> On their part, the Muslim respondents believe that God reaches out to the *xexeme* through the Qur'an, prophets, pastors and imams to guide human relations with creation.<sup>22</sup> Thus Idrisu Ibrahim bemoans that it is by 'our refusal to be Muslims', (that is to submit to God's laws about life in the eco-community), that we suffer challenges in the environment.<sup>23</sup> This corroborates the Islamic theologian notion that environmental degradation is merely a symptom of the broader calamity that human societies are not living in accordance with the will of God in the ecosphere.<sup>24</sup>

*Xexeme* as *agbenɔfe* (living habitat), is the open vast geographical arena (huge ecosystem) where, according to Kofi Avinyo Atiglo, a traditionalist, we experience alternation of day/light and night/darkness.<sup>25</sup> Structurally it extends from *dzifo* (the sky), where we can see and point to above us, down through *yame* (atmosphere) to *anyigbadzi* (Earth surface), where humans live and put their feet.<sup>26</sup> Both Muslim and Christian participants affirm this structure. Hajia Fatti Sanni, Hajia Hawusatu Eleas and Memuna Kudi in separate interviews explained the Eve word *xexeme* etymologically as a place that gives the sense of being physically *xixa* (narrowed or hemmed in) on the Earth's surface by both the

<sup>15</sup> Geoffrey Siame, interview at Sogakofe, 17 Feb 2016.

<sup>16</sup> Memuna Kudi, interview at Sogakofe, 13 April 2016.

<sup>17</sup> Özdemir, 'Toward an Understanding of Environmental Ethics from Qur'anic Perspective', p. 8.

<sup>18</sup> Mercy Awo Akafo, (PCG), interview at Elavanyo, 28 December 2015.

<sup>19</sup> Geoffrey Siame, interview at Sogakofe, 17 February 2016.

<sup>20</sup> Bediako, *Jesus in Africa*, p. 22.

<sup>21</sup> Kalu, 'The Sacred Egg', p. 234. A similar view of God's alienation but non-disconnection from human world is observable in the primal worldview of the Mizo people of India as noted by Lalsangkima Pachuau. The Mizo believe in the existence of *Pathian*, the 'Supreme Being' as well as souls, ancestors and other ambivalent spirit beings. But 'in the primal religion of the Mizo, *Pathian* was viewed as a distant being whom the final fate of every human being rested, but as remote from the day-to-day life of the people.' See Lalsangkima Pachuau, 'Primal Spirituality as the substructure of Christian Spirituality: The Case of Mizo Christianity in India,' *Journal of African Christian thought*, Vol. 11, No. 2, (December 2008), pp. 9-14, (11).

<sup>22</sup> Idrisu Ibrahim, interview at Sogakofe, 23 April 2016; Hajia Fati Sanni, interview at Sogakofe, 14 April 2016.

<sup>23</sup> Idrisu Ibrahim, interview at Sogakofe, 23 April 2016.

<sup>24</sup> Foltz, 'Introduction' to *Islam and Ecology*, p. xxxix.

<sup>25</sup> Kofi Avinyo Atiglo, interview at Elavanyo, 15 February 2016.

<sup>26</sup> Enyi Avenorgbo, interview at Elavanyo, 2 February 2016.

sky above and the underground below us. This is why it is called *xexeme*,<sup>27</sup> being a corruption of *xixame* (where one is physically narrowed). As I indicated earlier some Christians hold the same notion of *xixa*, but in a spiritual sense (narrowed by ungodliness) rather than a physical sense (narrowed by structures). For the Christians, *xexeme* as space is *anyigba kple edzinuwo* (the Earth and its occupants),<sup>28</sup> being the place for life (*kodzogbe*); it does not include *avlime* or *tsēfe* (the subterrenian abode of the living-dead).<sup>29</sup> *Anyigbadzi* (Earth surface) is distinct from *dzifo si mīkpɔa* (the observable sky, heaven) and separated from, but contiguous with it by *yame gbadzaa* (vast open atmosphere).<sup>30</sup> Ogbu U. Kalu points out how that the African conception of space is problematic, because we end up pointing to the sky and beyond it, the Earth and the underground when questioned about the 'world'<sup>31</sup> implying we conceive three dimensions of one cosmic space. Perhaps the difficulty and hence varied ways in which the sense of vastness of *xexeme* was expressed by the Eve is what Westermann recorded in his explanatory statement that '*xexeme: nugã wònye; elolo, ele megbe, ele ηgɔgbe* (the world: is a great thing, it is large, it is behind you and before you)'.<sup>32</sup>

Considering C.H. Wright's explanations, the structural descriptions above suggest that *xexeme* may translate the Hebrew *erets* (the Earth as a whole) or the Greek *Ge* (the Earth as the place of human habitation and distinct from the sea or sky).<sup>33</sup> However, to the Sokpoe-Eve, *xexeme* is not limited to only *anyigbadzi* (Earth surface, i.e. *eret* or *ge*); *xexeme* (Eve) or *dunia* (Hausa) is actually *anyigbadzi* (Earth surface) where we live, but extends up through *yame* (the atmosphere) to *dzifo* (first heaven or sky/firmament/stratosphere) where we see above our head.<sup>34</sup>

Unlike the primal religionists both Muslims and Christians perceive multiple *dzifowo* (heavens). They talk about *Dzifovii* (highest heaven, the third for Christians and seventh for Muslims) as not only the abode of God, but also the aspired eschatological and post mortem destination for good Muslims<sup>35</sup> and Christians.<sup>36</sup> Although the Qur'an, *sura* 17:44, speaks about 'The seven heavens and the earth...' constituting the cosmos, Muslims in this study conceive the world made up of seven heavens and seven Earths, but assert only the first heaven and first Earth constitute *xexeme*, because they are perceptible and knowable.

In terms of ecological timing of life in the ecosystem, some Christians and Muslims recognise two *xexemewo* (worlds) as *Anyigbadzi xexeme* or *kodzogbe* (human world) where we live now temporarily on the Earth, and *Dzifovii* or *Dzifoxexeme*, (celestial world) where believers will spend eternity. Temporality is experiential then on Earth and transists at death into eternity in heaven.<sup>37</sup> The primal religious participants, contrarily, speak of only *avlime* as the habitat of the dead, although some are not certain where *ηoliwo* (the souls/spirits of the dead) dwell permanently.<sup>38</sup> In that case Kwame Bediako's commentary on Mulago's studies

<sup>27</sup> Hajia Hawusatu Eleas, interview at Sogakɔfe, 12 April 2016; Memuna Kudi, interview at Sogakɔfe, 13 April 2016; Hajia Fati Sanni, interview at Sogakɔfe, 14 April 2016.

<sup>28</sup> These include the responses from participants in separate interviews such as (Evelyn Blasu, Abetifi, 16 January 2016; Winner Eworyi, Sokpoe, 3 February 2016; Andrews Ahado, Sokpoe, 5 February 2016; Francis Hordo, 11 February 2016; and Edward Kattah, Sokpoe, 11 March 2016).

<sup>29</sup> Winner Eworyi, (PCG), interview at Sokpoe, 3 February 2016 and Hordo Francis, interview at Sokpoe, 11 February 2016.

<sup>30</sup> Edward Klu Kattah, (PCG), interview at Sokpoe, 11 March 2016.

<sup>31</sup> Kalu, 'Precarious Vision', pp. 39-40.

<sup>32</sup> Westermann, *Gbefiala or Eve-English Dictionary*, (1930).

<sup>33</sup> Wright, 'The World in the Bible.' pp 208-209.

<sup>34</sup> Imam Mahmud Abu Bakar, interview at Sogakɔfe, 5 April 2016. He is the chief imam of Sogakɔfe.

<sup>35</sup> Abdul Aziz Muhammad, interview at Sogakɔfe, 13 April 2016.

<sup>36</sup> Gladys Ahado, (COP), interview at Sokpoe, 26 June 2016.

<sup>37</sup> Mercy Awo Akafo, (PCG), interview at Elavanyo, 28 December 2015.

<sup>38</sup> Kwame Grey and Klayi Avi, in separate interviews at Sokpoe, 2 Feb. 2016; Samuel Agboklu, interview, Sokpoe 2 March 2016.



among the Bantu that in the African's experiences of daily ecosystemic life 'the primal worldview is decidedly *this-worldly*'<sup>39</sup> may be true among the primal Sokpoe-Eve. By 'this-worldly' Bediako means 'limited to the here-and-now and the perceptible.' In this sense, though Bediako uses the expression 'this-worldly' for primal worldview of the Bantu, yet, in this study, it is applicable also for the Christian and Islamic worldviews of the Sokpoe-Eve.

For all three religions in the Sokpoe ecological area, especially the primal religionists and the Christians, *xexeme* (Earth surface and its atmosphere), *avlime* (the subterrenian abode of the living-dead) and *dzifo* (heaven) as places for life are distinct but spatially contiguous and open inexorably into each other. I therefore coin the terms 'gecosphere', 'celesphere' and 'subterresphere' to distinguish them respectively, and also because they aptly describe their cosmologies, in my view, literally. I shall explain more about these terms later in this chapter, but suffice it now to know that it is inferable from the responses that each of these spheres has its own spatial dimensions. As analysed above in this chapter, 'gecosphere' consists of Earth surface, atmosphere and sky/firmament/stratosphere; 'celesphere', particularly from Christian responses, is space for hell as second heaven and the third or highest heaven as well as other planets; while 'subterresphere' locates the abodes and gateways for the souls/spirits of the living dead.

Regarding the components of *xexeme*, all three religions in the Sokpoe eco-area perceive creation as consisting of both human and nonhuman creatures, which are either physical or spiritual, located throughout the three spatial dimensions of the 'gecosphere'. For Siame Geoffrey and Francis Hordo, speaking as a primal religionist and a Christian, respectively, the topmost-end of *xexeme* is *dzifo* (the sky or stratosphere) where the sun, moon, stars and rain are located.<sup>40</sup> To these things Abdullah Muhammed, a Muslim adds lightening, clouds, and thunder.<sup>41</sup> Kwame Grey and Klayi Avi see with primal religious eyes things in *xexeme* (Earth surface and atmosphere) as including a mass of air surrounding us, forests and animals, water bodies and fish, mountains and valleys, birds and flies. There are also spiritual entities including *trɔwo* (Earth deities as messengers of *Mawu Sogbolisa*) with their *trɔnuawo* (agents/priests of the deities),<sup>42</sup> multifarious *gbgbɔvɔwo* (evil spirits/forces) that often threaten human life, *ɲɔlɔwo* (ghosts) of living-dead humans.<sup>43</sup> The Muslim and Christian counterparts add to these things pastors, imams, chapels, mosques *abosam* (satan), shrines<sup>44</sup> and *azizawo* (dwarfs.);<sup>45</sup> then *adzewo* (homophagus spirits such as witches),<sup>46</sup> and *ɲɔlɔvɔdikple kɔkɔewo* (ghosts of evil and righteous people) awaiting hell and highest heaven, respectively, but now roaming in the air-mass or atmosphere.<sup>47</sup>

It is significant to note that most of the Muslim participants do not believe in ghosts. According to John Azumah the second pillar of faith in Islam is 'belief in supernatural beings, who fall into three categories: angels, jinns, and the devil.'<sup>48</sup> No ghosts are

<sup>39</sup> Bediako, *Jesus in Africa*: p. 92.

<sup>40</sup> Geoffrey Siame, interview at Sogakɔfe, 17 February 2016; Francis Hordo, interview at Sokpoe, 11 February 2016.

<sup>41</sup> Chief Abdullah Muhammad, interview at Sogakɔfe, 5 April 2016. He is the Zongo *sarechi* (the Zongo chief).

<sup>42</sup> Geoffrey Siame, interview at Sogakɔfe, 17 February 2016.

<sup>43</sup> Kwame Grey and Klayi Avi, interview at Sokpoe, 2 February 2016.

<sup>44</sup> Hajia Fati Sanni, interview at Sogakɔfe, 14 April 2016.

<sup>45</sup> Adizah Garba, interview at Sogakɔfe, 12 April 2016. Although Muslims generally do not believe in ghosts she does due to the testimonies if the Eve. For dwarfs Muslims believe in they exist and she had personal experience of encounter with them. Hajia Hawusatu Eleas, interview 12 April 2016 also had similar experience with dwarfs in corroboration.

<sup>46</sup> Edinam Kisseh, interview at Sokpoe, 1 March 2016; Dickson Blasus, interview at Sokpoe, 3 February 2015.

<sup>47</sup> Jacob Azuma, interview at Sokpoe, 5 February 2016 and Edward Klu Kattah, interview at Sokpoe, 11 March 2016.

<sup>48</sup> Azumah, *My Neighbour's Faith - Islam Explained for Christians*, p. 30.

mentioned, suggesting they do not fall into any of the categorised supernatural beings.<sup>49</sup> Nevertheless Idrisu Ibrahim thinks ghost-concept among the indigenous Sokpoe-Eve is like 'jinns' in Islam since 'jinns' are human but in spirit forms, with some being good and others bad just like ghosts.<sup>50</sup> Qur'an (sura 72:11) speaks of *jinns* being either 'righteous or contrary'.

Generally, in terms of its components as denoted by the religious traditions in Sokpoe, *xexeme* may translate the Greek *ta panta*, which as Chris Wright explains, signifies the whole of God's creation, visible and invisible, material and spiritual.<sup>51</sup> Similarly, considering components Samuel Agboklu defines *xexeme* as *dzodzome petee* (all creation or nature or entities other than God).<sup>52</sup> This sounds like Wright's Christian view that 'heaven and Earth' in the OT or 'cosmos' in the NT describes the space that 'includes the whole created universe - all that exists that is not God.'<sup>53</sup> However, in the mind of Agboklu and others in this study 'all creation' is limited to the perceptible aspect of the cosmos, from the Earth's surface through atmosphere to the sky, making up the 'gecosphere'.

Some of the primal religionists and Muslims in this study think that things above *xexeme* ('gecosphere') are unknowable. In separate interviews, Enyi Avenorgbo explains that 'beyond the sky (i.e. in 'celesphere') no-one has been there to tell us what there is;<sup>54</sup> and Hajia Sanni puts it 'The things in the other heavens and Earths are not known, because no-one has been to them.'<sup>55</sup> However, other traditionalists such as Geoffrey Siame and Samuel Agboklu congesture *Mawu* (God) and *mawudlawo* (God's angels) must be at *dzifovii* (highest heaven), because they want to avoid the solar heat in *dzifo* (the sky, stratosphere).<sup>56</sup> Similarly, some other Muslims also believe God and *malayikum* (angels, in Hausa)<sup>57</sup> are in the seventh heaven<sup>58</sup> called *fidaus* (paradise) in the Qur'an.<sup>59</sup> All the prophets including Isa (Jesus) and Mohammed as well as the righteous Muslims shall be taken to stay in *fidaus* after their judgements at the close of the world.<sup>60</sup> This Islamic view varied slightly with those of the Christian participants only in specification of places and people. Andrews Ahado, for instance, believes that beyond *dzifo* (sky) is a second *dzifo* where is located *dzomavome* (hell) and *anyigba bubuwo* (other planets) not occupied by any living things.<sup>61</sup> For Edward Kattah *Dzifovii* (the third or highest heaven) is where God, Jesus Christ, Holy Spirit, angels

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<sup>49</sup> It is noteworthy, however, that those Muslims in the study who are proselytes from Southern Ghana ethnic extractions or grew up in Tɔŋu cultural milieu, tend to believe in ghosts, at least because of what pertains in the cultural area. See the responses of Adizza Garba, interview at Sogakɔfe, 12 April 2016. She was born and bred in typical Tɔŋu villages like Alɔyi, Tɔdzienu and Atiteti. She has never seen a ghost but believes the concept of ghosts because the Tɔŋu neighbours often speak about it.

<sup>50</sup> Idrisu Ibrahim, interview at Sogakɔfe, 23 April 2016.

<sup>51</sup> Wright, 'The World in the Bible.' p. 209.

<sup>52</sup> Samuel Agboklu, interview, Sokpoe 2 March 2016.

<sup>53</sup> Wright, 'The World in the Bible.' *Evangelical Review of Theology*, p. 208.

<sup>54</sup> Enyi Avenorgbo, interview at Elavanyo, 2 February 2016.

<sup>55</sup> Hajia Fati Sanni, interview at Sogakɔfe, 14 April 2016.

<sup>56</sup> Geoffrey Siame, interview at Sogakɔfe, 17 Feb 2016; Samuel Agboklu, interview, Sokpoe, 2 March 2016. Their idea of God and angels in highest heaven might be borrowed from their exposure to Christian thoughts around them. At least Samuel Agboklu has no doubt about God and angels being in the highest heaven.

<sup>57</sup> Hajia Hawusatu Eleas, interview at Sogakɔfe, 12 April 2016.

<sup>58</sup> Chief Abdullah Muhammad, interview at Sogakɔfe, 5 April 2016. He is the Zongo *sarechi* (the Zongo chief). Other Muslim participants believe there are seven Earths and seven heavens, but only the first earth and heaven form *dunia* or *xexeme* (the human environment).

<sup>59</sup> Abdul Aziz Muhammad, interview at Sogakɔfe, 13 April 2016.

<sup>60</sup> Abdul Aziz Muhammad, interview at Sogakɔfe, 13 April 2016.

<sup>61</sup> Andrews Ahado, (PCG), interview at Sokpoe, 5 February 2016. This idea of a second heaven is, however, only assumed by Mr. Ahado as a logical conclusion from Biblical talks about 'the third heaven'. It is doubted yet not very clear or certain in the minds of other participants or in my own mind, particularly his locating of hell in the second heaven.

and *amekəkəweo fe luwəwo* (souls of the saints, i.e., righteous Christians) dwell.<sup>62</sup> With regards to *anyigbate* (the space below the 'gecosphere') the three religious traditions perceive it cosmologically as the place where we have underground air, minerals and water, as well as *avlime* (the abode for living-dead). Respondents such as Samuel Agboklu, a primal religionist,<sup>63</sup> Idrisu Ibrahim, a Muslim<sup>64</sup> and Evelyn Blasu, a Christian<sup>65</sup> for instance, expressed this same view in separate interviews.

Generally all participants from the three religious traditions in the study see the purpose of *xexeme*, particularly the nonhuman creation anthropocentrically. Nonhuman creation exists to serve humanity instrumentally. From a primal religious angle, Klayi Avi,<sup>66</sup> George Grey<sup>67</sup> and Christiana Agboklu,<sup>68</sup> in separate interviews, see *xexeme* as the God-gifted home for living humanity. Geoffrey Siame thinks *xexeme* provides us with all the things that enable us perform the duties of procreation and family care in the eco-community.<sup>69</sup> The Muslim counterparts explain that *xexeme* is a cosmic place for life now temporarily on Earth, though it hems us in between the sky and the underground.<sup>70</sup> For Abu Bakar we live in *xexeme* because it is where we can get food to eat and grass for our animals; even air.<sup>71</sup> According to Islamic theologian Nomanul S. Haqq, Qur'an presents nonhuman creation as a 'muslim' which submits to God by performing its function to nourish, support and sustain all life and human life in particular. But more importantly creation exists as *āya* (sign of or pointer) to God; it is an emblem of God, a means through which God speaks to humanity.<sup>72</sup> This second purpose of nonhuman creation, however, did not occur to the Muslims in this study. The Christian participants were no different. In separate interviews, Evelyn Blasu,<sup>73</sup> Mercy Akafo,<sup>74</sup> and Mary Awusi Blasu<sup>75</sup> were very certain that God did not want us to suffer and so created *anyigba kple edzinuwo kata* (the Earth and all in it) for our use before we came.<sup>76</sup> Thus all the participants understand *xexeme* as existing to secure human habitation and nurturing. From a Christian point of view, it appears that their view is limited. Although Keitzar agrees that truly 'God prepared an environment for life before creating even humanity',<sup>77</sup> in Scripture, nonhuman creation exists first and foremost to glorify God (Ps. 19:1-4), even by the nurturing of humanity.<sup>78</sup> What then are the religious views about humanity?

<sup>62</sup> Edward Kattah, (PCG), interview at Sokpoe, 11 March 2016.

<sup>63</sup> Samuel Agboklu, interview, Sokpoe 2 March 2016.

<sup>64</sup> Idrisu Ibrahim, interview at Sogakofe, 23 April 2016.

<sup>65</sup> Evelyn Blasu, interview at Abetifi, 16 January 2016.

<sup>66</sup> Klayi Avi, interview at Sokpoe, 2 February 2016.

<sup>67</sup> Kwame Grey, interview at Sokpoe, 2 February 2016.

<sup>68</sup> Christiana Agboklu, interview, Sokpoe 2 March 2016.

<sup>69</sup> Geoffrey Siame, telephone interview, 6th April, 2017.

<sup>70</sup> Hajia Fati Sanni, interview at Sogakofe, 14 April 2016.

<sup>71</sup> Imam Mahmud Abu Bakar, interview at Sogakofe, 5 April 2016. He is the chief imam of Sogakofe.

<sup>72</sup> Haq, 'Islam and Ecology: Toward Retrieval and Reconstruction,' p. 126.

<sup>73</sup> Evelyn Blasu, interview at Abetifi, 16 January 2016.

<sup>74</sup> Mercy Awo Akafo, interview at Sokpoe-Elavanyo, 28 December, 2015.

<sup>75</sup> Mary Awusi Blasu, interview at Sokpoe-Elavanyo, 2 February 2016.

<sup>76</sup> To an extent they echo the celebrated physicist and cosmologist, Freeman Dyson who exclaimed 'The more I examine the universe and study the details of its architecture, the more evidence I find that the universe in some sense must have known that we are coming!' See Freeman Dyson, as cited by Swimme and Tucker, *Journey of the Universe*, p. 11.

<sup>77</sup> Keitzar, 'Creation and Restoration' p. 55.

<sup>78</sup> Keitzar, 'Creation and Restoration', p. 56. The same is argued in Islam also (Qur'an 17:44).

### 8.3 Primal, Islamic and Christian Views of Humanity and Its Role in Creation

In the religious cosmology of the Sokpoe-Eve there are differences in details but also commonalities in their religious anthropologies related to the creator, constitution and purpose of humanity. The interviewees were asked the question: '*le wò gomesese nu aleke amegbetò va dzò ò xexeame?*' (in your opinion how did humankind originate on the Earth?). All the respondents from the three religious traditions agreed it was from *Mawu/Allah*. However, some of the primal religionists, while affirming it, have difficulty in reconciling with the process of realisation. Amega Enyi Avenorgbo, a primal religionist, responded: *le nyatefe me la nyemenya o* (in sincerity I do not know). He does not know the origin or the real purpose of humanity on Earth, but he knows the human species perpetuates itself through sexual reproduction.<sup>79</sup> He knows and believes the common saying that we originate from God, but cannot explain how God made us. What is certain for him is that *amegbetò la nysu kple nyonu yee dzie* (human is born of a man and a woman).<sup>80</sup> In the views of Samuel Agboklu and Kofi Avinyo Atiglo, on the other hand, *Mawu* (God) is the originator of humanity, he created us with soil and put spirit or breath into us.<sup>81</sup> In his Islamic view Idrisu Ibrahim was not very certain about the origin of humans except that a person enters the world through procreation. On his part, Alhassan Ibrahim believes *Mawu* (Allah) is the origin of humanity. Humans are created from and with clay.<sup>82</sup> Alhassan's views were not different from those of all the Christian participants including Maxwell Agbewovi, a pastor of Apostolic Revelation Society (ARS) God.<sup>83</sup>

The question of what constitutes humanity and, hence, makes us think and behave ecologically in one way or the other does not easily find common grounds among the religious traditions. The differences were, however, only in terms of details. For instance, some of the primal religious respondents considered that humans are constituted of two components, *nytilã* (body) and *gbogbo* (spirit/soul). I recall Samuel Agboklu's view reported earlier in chapter four, because apart from pointing to *Mawu* as creator it provides also some insight into the primal ideas of human constitution.

*Trõsubolawo* (primal religionists) know that *Mawu* (God) the Most High is the creator of humanity and everything on Earth. Thus he is called *Sogbolisa*, *Okitikata* (the unchallengeable creator), *Aðanu wòtò* (the Craftsman), and *Donyuiwòtò* (Worker of the good). He created hand and foot, the Earth and all in it. He used clay to create human and breathed breath/spirit into it.<sup>84</sup>

In Agboklu's view human is made up of two things: *nytilã* (body), which essentially is from and of the soil, and then *gbogbo* (spirit), which is *eya* (wind or breath). Other primal views as from Kòwu Yòhokpò<sup>85</sup> emphasise *evu* (blood) as a significant component though it is part of the body. Thus *nytilã* (body) is made up of *lãkusi* (flesh) and *evu* (blood), which are essentially from and of soil; and together with *gbogbo* (spirit/breath) make humanity a three-

<sup>79</sup> Enyi Avenorgbo, interview, Elavanyo, 2 February 2016.

<sup>80</sup> Avenorgbo, interview, Elavanyo, 2 February 2016. See also Kofi Avinyo Atiglo, interview Elavanyo, 15 February 2016.

<sup>81</sup> Agboklu, interview at Sokpoe, 2 March 2016 and Kofi Avinyo Atiglo, interview, Elavanyo, 15 February 2016.

<sup>82</sup> Alhassan Ibrahim, interview at Sogakòfe, 14 April 2016. See appendix A5 for transcript.

<sup>83</sup> Maxwell Agbewovi, interview at Sokpoe, 26 February 2016.

<sup>84</sup> Agboklu, interview at Sokpoe, 2 March 2016. (See transcript in Appendix A1). The same understanding and names of God were expressed by Geoffrey Siame, interview at Sokpoe on 17 February 2016.

<sup>85</sup> Kòwu Yòhokpò, interview at Sogakòfe on 17 February 2016.

component entity. *Gbɔgbɔ*, released into the human creature by *Mawu* (God)<sup>86</sup> is the invisible aspect of human being; it is like *yafɔfo* (wind/breath) from God.<sup>87</sup> This explains why a dying person *nɔa amamu dzi* (gasps for breath), because *eƒe gbɔgbɔ le tsitsim* (the available air in it diminishes toward an end).<sup>88</sup>

For Avinyo Atiglo though God created them, both blood and flesh enter human beings through nutrients. Agboklu does not know how blood attains its functional nature in the body as we know it. However, he and others like Avinyo Atiglo and Geoffrey Siame, in separate interviews, hold the same views that functionally, blood couples breath/spirit and only with this togetherness do they enliven the body. As individual constituents neither on its own can make the body experience *agbe* (enlivening).<sup>89</sup> In other words, the life-giving spirit or breath can exist in the human only in confluence with and so necessarily requires blood to function,<sup>90</sup> perhaps because there is a special *kadodo* (bond or affinity) between blood and the life-spirit/breath that God put in us.<sup>91</sup>

Answering same questions about human constitution from an Islamic view point Alhassan Ibrahim responded as follows:

First of all, Qur'an teaches that through an angel *Mawu* (Allah) sent for clay with which he created *ame* (creature) and kept it to dry for forty years. Thence after, *Mawu* breathed life spirit into it; that became Adam. Later *Mawu* used one of Adam's ribs to create *Hawa* (Eve), and placed them both in the garden of paradise.<sup>92</sup>

In this view Adam as human was created from and with clay. The *amee* (created thing), which is also known as *ɲutilā* (body) only became enlivened when after forty years God breathed *agbɛgbɔgbɔ* (enlivening spirit) and it became a living human person called Adam. *Hawa* (Eva), the next human to Adam on the other hand, was created out of Adam's *axafu* (rib) by God, suggesting she has the same origin and constitutional components as Adam. Asked what exactly these components are, Alhassan Ibrahim answered *anyi kple gbɔgbɔ ye wɔ ame* (human is composed of *anyi* (clay) and *gbɔgbɔ* (spirit/breath)).<sup>93</sup> But in a separate interview Idrisu Ibrahim provides further details that *Mawu* creates *lākusi* (flesh) and *evu* (blood) from clay and puts *gbɔgbɔ* into the flesh during procreation. That is why death occurs when *gbɔgbɔ* exits *ɲutilā*.<sup>94</sup> In the same vein the *Zongo sarachi* (chief of Zongo) of Sogakɔƒe, Abdullah Muhammad, did not state it categorically, but his response implied that God is both creator of the first humans and procreator of the rest of humanity thereafter. He espoused the Islamic understanding of reproduction and expounded on it as follows:

Everyone is born of woman and man. In pregnancy the *etsi* (semen) poured into the uterus by a man turns *evu* (blood) after forty days. The blood turns *lākusi* (flesh) in forty days, and then in the next forty days, which is the end of fourth month, God puts *gbɔgbɔ* (spirit/breath) into and turns flesh to *amegbetɔ* to be birthed later.<sup>95</sup>

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<sup>86</sup> Geoffrey Siame, interview at Sogakɔƒe, 17 February 2016.

<sup>87</sup> Kɔwu Yɔhokpɔ, interview at Sogakɔƒe on 17 February 2016.

<sup>88</sup> Kofi Atiglo, interview, Elavanyo, 15 February 2016.

<sup>89</sup> Kofi Atiglo, interview, Elavanyo, 15 February 2016; Siame, interview at Sokpoe on 17 February 2016 and Agboklu, interview at Sokpoe, 2 March 2016.

<sup>90</sup> Siame, interview at Sokpoe on 17 February 2016.

<sup>91</sup> Kofi Atiglo, interview, Elavanyo, 15 February 2016.

<sup>92</sup> Alhassan Ibrahim, interview at Sogakɔƒe, 14 April 2016. See appendix A5 for transcript.

<sup>93</sup> Alhassan Ibrahim, interview at Sogakɔƒe, 14 April 2016.

<sup>94</sup> Idrisu Ibrahim, interview at Sogakɔƒe, 23 April 2016.

<sup>95</sup> Abdullah Muhammad (Zongo sarechi), interview at Sogakɔƒe, 5 April 2016. See appendix 7 for transcript

Abdullah Muhammad thus points out that in procreation the potency in human semen to develop into an individual through a blood clot is not possible without God's *gbɔgbɔ* (enlivening spirit) in the process. He explains further that the role of *gbɔgbɔ* in *amegbetɔ* may be likened to the 'ingin' (engine) of *lɔli* (lorry). It is *gbɔgbɔ* that chooses a person's 'kadira' (destiny) upon God's instruction, and makes him/her able to move about in the ecosystem, particularly towards its destiny. There are four contrasting destinies, namely, either *dzɔgbenyuie* (fortune) or *dzɔgbevɔẽ* (misfortune); *vidzidzi* (fertility) or *konɔ* (barrenness); and *sedziwɔwɔ* (obedience) or *aglãdzedze* (rebellion).<sup>96</sup> No human or power can alter a person's chosen destiny. Thus if, for instance, a person's *gbɔgbɔ* chooses obedient 'kadira' yet he/she begins to live a rebellious life, the 'kadira' will necessarily change him/her to become obedient before dying.<sup>97</sup> Perhaps it is in line with Islamic belief in predestination that whatever God decrees about a thing or person is unchangeable since it is preserved on a tablet in heaven.<sup>98</sup>

The Islamic worldview about the making of humans from the responses of the Muslim participants in this study suggests that God is not only the origin of humanity, but also continues his original creation pattern in the procreation of humans by humans. Anthropologically, humans consist essentially of created earthy material and a God-endowed immaterial life-breath/spirit. Since the beginning God continues to be involved in creation by ensuring his creation pattern perpetuates in procreativity of humans by humans.

Responding to the question about the constitution of a human being from the Christian perspective, Dickson Blasu, an elder in the Apostolic Revelation Society (ARS), identified three basic constituents in the making of humans: *ɲutilã* (body/flesh), *gbɔgbɔ* (spirit/breath) and *evu* (blood). In his view the spirit is alive, but flesh and blood on themselves are not living.<sup>99</sup> The same three-component formula was noted in the views of other respondents like Evelyn Blasu, Edward Kattah, Winner Eworyi, Martin Doade (all Presbyterians), Jacob Azuma (of Church of Pentecost) and Mathew Agbatɔ of the Divine Healing Church of Christ in Christ (DHCCC), in separate interviews, but with difference in the third component. Unlike Dickson Blasu, the other interviewees name the third component as *luwɔ* (soul)<sup>100</sup> instead of *evu* (blood). While *ɲutilã* is physical and is made out of soil, both *gbɔgbɔ* and *luwɔ* proceed from God and are in form of spirit. On the contrary, Maxwell Agbewɔvi, a pastor of ARS thinks of only two constituents: *ɲutilã* and *gbɔgbɔ*, because *gbɔgbɔ* is also called *luwɔ* (soul) or *ɲɔli* (ghost); and *evu* is essentially part of *ɲutilã*. Because *ɲutilã* is of Earth, visible material and mortal it differs from *gbɔgbɔ*, which is immaterial, invisible and immortal life-breath of God.<sup>101</sup> Similarly, retired Rev. M. K. Adikpe<sup>102</sup> and Presbyterian Andrews Ahado, both of the Presbyterian Church of Ghana perceive, categorically, only two constituents: *ɲutilã* (body/flesh) and *gbɔgbɔ* (spirit/breath). Andrews Ahado, for instance, had this to say:

Human is made up of *ɲutilã* (body/flesh) and *gbɔgbɔ* (breath/spirit), which God breathed into it. God calls it *luwɔ gbagbe* (living soul). Thus, when a human being dies it is no longer called with a name; it is referred to simply as 'ameɛ' (the created thing). In *gbɔgbɔ* is located the ability of thinking, heart desiring and having emotional feelings. When the bible talks about the *luwɔ* that sins shall be the same

<sup>96</sup> Even though he said there are four destinies he could remember only three.

<sup>97</sup> Abdullah Muhammad (Zongo sarechi), interview at Sogakɔfe, 5 April 2016.

<sup>98</sup> Azumah, *My Neighbour's Faith*, p. 33.

<sup>99</sup> Dickson Blasu, interview at Sokpoe, 3 February 2016.

<sup>100</sup> Evelyn Blasu, interview at Abetifi, 16 January 2016, Edward Kattah, interview at Sokpoe, 11 March 2016, Winner Eworyi, interview at Sokpoe, 3 February 2016, Jacob Azuma, interview at Sokpoe 5 February 2016 and Mathew Agbatɔ, interview at Sokpoe-Bodzoɔɔfe, 24 February 2016.

<sup>101</sup> Maxwell Agbewɔvi, interview at Sokpoe, 26 February 2016.

<sup>102</sup> Rev. M. K. Adikpe (rtd.), interview at Mepe, 2 June 2016.

that dies, it is *amegbetɔ* (human being) who hears or thinks that bible refers to as *luwɔ* *gbagbe* (living soul).<sup>103</sup>

For Andrews Ahado and many others in this study, there are only two basic constituents in the structural making of human beings: *ɲutilã* (the flesh) and *gbɔgbɔ* (the spirit). The flesh comprises the solid muscular body and a fluid aspect of blood. It is created by God from or with soil, being physical, tangible and observable, but lifeless. The spirit on the other hand is a life-giving breath of or from God directly, and contains the personal qualities of thinking, desiring and feeling. Conjoining both flesh and spirit constituents together results in a sentient, moral and living entity with disposition to be either mortal or immortal. It is called *luwɔ gbagbe* (living soul) or *amegbetɔ* (enlivened created thing), what we commonly refer to in our mind when we imply a human being or a person as an individual. Responding to further questions investigating distinctiveness of the structural constituents of human making Ahado argues that since by saying 'the *luwɔ* that sins the *luwɔ* shall die', God refers to *amegbetɔ* then *amegbetɔ* is *luwɔ*, being a short form of *luwɔ gbagbe*. But *luwɔ gbagbe* implies enlivened *luwɔ*, that is, *luwɔ* into which God inspired his spirit or life giving breath.

In another sense, *amegbetɔ* also means enlivened created thing or that creation into which life breath is inspired. Then *ame* corresponds with but not equal to *luwɔ*, in that both can be enlivened when *gbɔgbɔ* as the spirit or the life-breath is present in them; but in daily life experience *ame* is a tangible and visible material entity, while *luwɔ* is understood as non-observable, intangible and immaterial entity. Therefore, *ame* and *luwɔ* differ by their substantial nature yet are similar in having quality to be enlivened by the spirit.

Ahado resolves the difficulties in making clear distinction of the constituents that make humans by summarising that humanity is both material and immaterial at the same time, with the latter being the real person. In a separate interview, Francis Hordo, whose views corroborate Ahado's in many respects, calls our immaterial aspect *amenyenye ɲutɔ* (the real being of a human person).<sup>104</sup>

An anthropological inference and rationalisation from the various responses suggest that *amenyenye ɲutɔ* (the real being of human) is invisible. It is a never dying entity called 'living soul' or 'soul' for short. *Luwɔgbagbe* is an infusion of *luwɔ* and *gbɔgbɔ*, at creation of humanity. The fusion makes both entities such a unity that none can be distinguished from the other.<sup>105</sup> However, only *gbɔgbɔ*, has the qualities of being full of *agbe* (life),<sup>106</sup> *makumaku* (immortality),<sup>107</sup> *hea susu* (thinks or rationalises) and *sena nu* (feels or is sentient).<sup>108</sup> Furthermore, unlike the immaterial *gbɔgbɔ*, which proceeds directly from God, *luwɔ* despite being immaterial yet is created concurrently as a mirror image or shadow<sup>109</sup> of the material *ame* created with *anyi* (clay).<sup>110</sup> Because they are creations neither *luwɔ* (soul) nor *ame* (also called *ɲutilã*, body) is self-living, though either can be enlivened.<sup>111</sup> Meanwhile

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<sup>103</sup> Andrews Ahado, interview at Sokpoe, 5 February 2016. See appendix 11 for transcript.

<sup>104</sup> Francis Hordo, interview at Sokpoe, 11 February 2016.

<sup>105</sup> Francis Eworyi, interview at Sokpoe-Elavanyo, 3 March 2016.

<sup>106</sup> Mercy Akafo, interview at Sokpoe-Elavanyo, 28 December 2015.

<sup>107</sup> Francis Hordo, interview at Sokpoe, 11 February 2016.

<sup>108</sup> Andrews Ahado, interview at Sokpoe, 5 February 2016.

<sup>109</sup> Mama Mary Amɛ Azuma, interview at Sokpoe, 1 March 2016. She illustrates this thought of *luwɔ* (soul) being the immaterial mirror image of the materialistic *ame* (human) with the shadow or dark figure cast on a surface such as the ground, outlining the form or shape of a person, when we are in between light and the surface. She believes that the real being of a human is such a virtual lifeless shadow at creation, but becomes enlivened when infused with the life breath or spirit from God. For her this explains why the Eve call human shadow cast on a surface as *luwɔ* while that of other solid objects is differently described as *vɔvɔli*. In other words, only humans have *luwɔ*.

<sup>110</sup> Mercy Akafo, interview at Sokpoe-Elavanyo, 28 December 2015.

<sup>111</sup> Francis Hordo, interview at Sokpoe, 11 February 2016.

*luvɔ* being immaterial is the more predisposed to being fused with another immaterial entity, *gbɔgbɔ*, resulting in *luvɔgbɔagbe* (enlivened soul), which assumes the immortality of *gbɔgbɔ*.<sup>112</sup>

This is what J.O.Y. Mante means when he says 'The soul should be seen as that part of the body which is open to God (or heaven) and the body as that part of the soul, which is open to God's earth.'<sup>113</sup> In other words, *ame-agbetɔ* (human being) is the enlivened created thing or being, which is a psychosomatic conjoining of *luvɔ gbɔagbe* (living soul) with *ame/ɲutilã/anyi kuku* (lifeless flesh/clay/earth); it is not an embodied soul or a 'soulfull' body. The blood appears the confluence of the conjoining<sup>114</sup> and explains why spillage of human blood results in death even as God warns us against.<sup>115</sup> *Ame-agbetɔ* takes on the combined characteristics of its constituents to become sentient, rational, moral and living but capable of lifelessness or mortality, too.

This then may explain why *amegbetɔ* (human being) and *luvɔ gbɔagbe* (living soul) or just *luvɔ* (soul), for short, are interchangeable. For 'a soul has a body and the body has a soul.'<sup>116</sup> It is also essentially the reason why some think of human as constituted of three items. On one hand it is *ɲutilã* (body, which is flesh/muscle), *evu* (blood), and *gbɔgbɔ* (spirit);<sup>117</sup> or on the other, *ɲutilã* (body, which is flesh/muscle and blood together), *luvɔ* (soul) and *gbɔgbɔ* (spirit).<sup>118</sup> Yet others simply see only two constituents: *ɲutilã* (body, which is flesh/muscle and blood) and *gbɔgbɔ* (immaterial life breath of God conjoined to soul, which is created but immaterial).<sup>119</sup> Thus ordinarily the word *gbɔgbɔ* translates spirit or breath, but when it describes the immaterial component of humanity it stands for *luvɔ gbɔagbe* (breathing or living soul) in the mind of the Sokpoe-Eve Christian. It also stands to reason that neither *ɲutilã* nor *gbɔgbɔ* (or *luvɔ*) as a single entity is human until there is a confluence between them. Conjoining the two parts is part of the process by which God creates humans.

This worldview of the Sokpoe-Eve Christian then suggests that existentially humanity is not a dualism, but a holism, being at once earthling flesh and divine breath/spirit, with material body and immaterial soul. But the difficulty of perceiving in reality how materialism and immaterialism can constitute a being at once may be explained with J.O.Y. Mante's postulation of applying perichoresis to explain Christian anthropology. He asserts from a Christian theological angle that to have a clearer perception of the constitution of human being in our generation 'it is important to affirm afresh' that 'the soul is not the body nor is the body the soul.'<sup>120</sup> Rather body and soul are inseparably connected and they exist in perichoretic unity, that is, they mutually interpenetrate each other and thereby bring each other to glory<sup>121</sup> - the glorious image of the perichoretic Creator God. Mante believes that this 'perichoretic understanding of body and soul has the advantage of solving the soul/body dualism created by Cartesianism.'<sup>122</sup> But why did God create human beings?

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<sup>112</sup> Francis Hordo, interview at Sokpoe, 11 February 2016. My own reflection upon listening to these interview responses is that Heb 4:12 seems to suggest that two items were conjoined into inseparable 'living soul.' The text suggests that once a 'living sou'l is formed it cannot be separated into its 'spirit' and 'soul' constituents except if God who conjoined them wants to and can do so by his word. For it is written, 'the word of God'...penetrates to dividing soul and spirit'.

<sup>113</sup> Mante, *Africa: Theological and Philosophical Roots of Our Ecological Crisis* p. 157.

<sup>114</sup> Dickson Blasu, interview at Sokpoe, 2 February 2016.

<sup>115</sup> Rev. Maxwell K. Adikpe, interview at Mefe, 2 June 2016.

<sup>116</sup> Mante, *Africa: Theological and Philosophical Roots of Our Ecological Crisis* p. 157.

<sup>117</sup> Dickson Blasu, interview at Sokpoe, 3 February 2016.

<sup>118</sup> Daniel Agbota, interview at Sokpoe, 11 February 2016.

<sup>119</sup> Mercy Akafo, interview at Sokpoe-Elavanyo, 28 December 2015, M. K. Adikpe, interview at Mefe 2 June 2016, and Andrews Ahado, interview at Sokpoe, 5 February 2016.

<sup>120</sup> Mante, *Africa: Theological and Philosophical Roots of Our Ecological Crisis* pp. 156-7.

<sup>121</sup> Mante, *Africa: Theological and Philosophical Roots of Our Ecological Crisis* p. 157.

<sup>122</sup> Mante, *Africa: Theological and Philosophical Roots of Our Ecological Crisis* p. 157.



The primal religious interviewees are unable to tell clearly the role of humanity on Earth apart from procreation as continuation of God's creative activity.<sup>123</sup> Samuel Agboklu believes that God endowed humanity with procreation to continue his creation activity.<sup>124</sup> Atiglo Avinyo mentions procreation and fending for one's family even though ultimately it is God, through the deities 'who cares for all of us', where 'all of us' means 'both human and nonhuman creation on the Earth,' as he explains.<sup>125</sup> Geoffrey Siame's views on humanity's role on Earth may be another point analysable from his response that I alluded to earlier,

In the understanding of our ancestors God created humans to represent him. So he made us in his image. But since he is invisible we craft *legbawo* (images/statutes) like humans or other creatures, which act as messengers between us and God. If there is any other role it is procreation. As creator he gave us opportunity to also procreate, and provided all things to enable us perform these duties in the environment for our use.<sup>126</sup>

It is difficult to decipher whether the background of basic education in a Christian school has any influence on the worldview of Geoffrey Siame in stating that God created humans in his own image and as his representatives. However, rationalising all the responses collated from the interviewees, it is deducible that in the Sokpoe-Eve primal religious thought, God creates and gave humanity the ability to procreate; God cares for all creation and enables humanity to care for its family. In a sense then humanity images God, at least, in his creation and caring activities. But God's caring activity is through the deities, and eventually, humanity, as Avinyo explains; wherefore humanity represents God. But this seems more of a theoretic deduction. What is more probable is rather the antropocentric and instrumental view that nonhuman creation is 'to be used' by humans in performing their God-given duties of procreating and caring for families, as Geoffrey Siame explains. The anthropocentric view of humans is further significantly demonstrated, from an ecological point of view, with the fact that only humans are formally welcomed into or sent off from the physical earthly eco-communitiy with birthing and funerary rites, respectively. I shall, however, discuss these rites in chapter 11 as actions that prime for sustainable ecological relations in the 'gecosphere.'

On the question of the Islamic understanding of humanity's purpose on Earth or why we are created the responses suggest that Muslims in the Sokpoe ecological area understand our primary role on Earth is to 'worship' or 'submit' to God as a Muslim. In separate telephone interviews malam Alhassan Ibrahim of Sogakofe<sup>127</sup> and Imam Alhaji Ali of Dabala Junction<sup>128</sup> stressed this point. They explained that both humans and *jinn*s are the only creatures to be judged regarding their worship of God. All other creatures - such as trees and animals - are to service humanity to live well and perform the duty of being a Muslim. But according to Imam Ali humans have responsibility to care for these nonhuman creatures, particularly animals; failure is sin and is punishable by God. What appears a second role of humanity in the responses was procreation. In this regard, malam Alhassan Ibrahim sees humanity as '*khalifa* or representative of God to continue creation activity.' On his part, Imam Alhaji Ali believes procreation is ultimately God's *dodeasi* (assignment), yet it was effectuated through Satan's deception of Adam and Eve to 'eat the forbidden fruit (sexual intercourse).' He does not know why God would allow this important intention for humanity

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<sup>123</sup> Avenorgbo, interview, Elavanyo, 2 February 2016 does not know humans' purpose, except that humans perpetuate their kind through sexual reproduction

<sup>124</sup> Samuel Agboklu, interview at Sokpoe, 2 March 2016.

<sup>125</sup> Kofi Atiglo, interview, Elavanyo, 15 February 2016.

<sup>126</sup> Siame, telephone interview, 6th April, 2017. (See Appendix A2 for transcript).

<sup>127</sup> Alhassan Ibrahim, telephone interview, 7th April 2017, 9.00am

<sup>128</sup> Imam Alhaji Ali, telephone interview, 7th April, 2017, 11.00 am

to be realised through Satan; but he asserts that God wants humans to represent him (*khalifa*) in perpetuating his creativity.

On Christian views of why Humanity was created Rev. Adikpe, a retired Presbyterian minister at Mepe, explains: '*Mawu wɔ ame be wòà dī yɛ. Mawu nye lɔlɔ̃, eye wò di be ame na de yefe lɔlɔ̃ afia*' (God is love and created humans to be a means of demonstrating his loving nature to all creation).<sup>129</sup> Consequently, God infuses his *gbɔgbɔ* (breath/spirit) into us, and since the breath comes direct from God, it makes human unique among all creatures and said to be in the image of God. Then God appointed humans who are in his image '*be miakpɔ xexemenuwo katà dzi*' (to be stewards of all creation), but both humans and the rest of creation are under God's care. He believes procreation is part of humanity's role and means of showing God's love as co-creator. Humans are to live out God's loving nature by obeying all his laws and worshipping him. Answering the same question Mercy Akafo of Sokpoe holds similar views: humanity is created in God's image to show his loving nature in our relationships with him and others. Humans, in her view, are thus to *kpɔ efe asinudɔwɔwɔwɔ dzi* (be stewards of all his handiworks); and continue his creativity in procreation.<sup>130</sup> For these Christians then God created humankind to image him in their conduct of life daily, be stewards of creation and be co-creators through procreation.

Now, as earlier indicated, analysing these religious worldviews has one aim to find commonalities that may influence cooperation in the practise of religious eco-ethics in a context of religious pluralism.

#### 8.4 Common Grounds in Sokpoe-Eve Religious Worldviews for Concerted Eco-praxis

Although there are some differences, to a large extent, there are similarities or common grounds amongst the Primal religionists, Christians and Muslims in conceiving *xexeme* as our environment in the cosmos. In all three religious traditions the exact concept is not easy to articulate from the responses of the interviewees in the Sokpoe-Eve ecological community. However, all three religious traditions undoubtedly use the term in daily life experiences with a dual sense: on one hand *xexeme* is bad ecological ethos (that is, human behaviours and not something intrinsically cosmic); on the other it is our cosmic living habitat or 'gecosphere'.

For the primal religionists *xexeme* way of living may incur ecological sins by offending *trɔ̃wo* (Earth deities), with possible resultant untold retribution onto the entire eco-community. For instance, disobeyingly picking an oyster from someone's staked oyster preservation enclave in the river; or greedily picking more than one from a 'mountain' of oysters in the deep river, grieves the oyster deity. It may lead to the drowning of the culprit. Harvesting wood from a forbidden or sacred forest may incur untimely deaths and great sorrow to bereaved families. In addition, misconduct such as conjugal sex in the forest or on bare ground in the farm may result in drought and poor harvest of crops for the farming community. Consequently, pacification rites such as *kpokpɔkplɔ* (land purification) may be required to cleanse the ecosystem and enable the deities to bring rain and good harvests. In similar vein *xexemegbenɔnɔ* (worldly living) among the Christians and Muslims includes ungodly/unethical eco-relational behaviours (such as pilfering, disregard of the poor, sexual immorality and improper disposal of faecal matter), which need to be recognised as ecological sins. They are punishable by God in the end.<sup>131</sup> Theoretically, then, this could be an impulsion, a motivational warning, to shun not *xexeme* as 'gecosphere' but *xexeme* as 'eco-

<sup>129</sup> Rev. M. K. Adikpe, telephone interview, 7th April 2017, 12.00 noon

<sup>130</sup> Mercy Akafo, telephone interview, 7th April 2017, 1.30 pm

<sup>131</sup> Wright, 'The World in the Bible.' *Evangelical Review of Theology*, p. 207.

misconduct.' This could mean living in obedience (Christians) or submission (Muslims)<sup>132</sup> to the will of God in the ecosphere.

On the other hand all three religious traditions in this study conceive *xexeme* as *anyigba kple edzinuwo* or 'gecosphere', which is our earthly living space in the cosmosphere. I argue that the concept of *gecosphere* has theological significance in that it may ground the Sokpoe-Eve as earthlings more than *cosmosphere* or even *ecosphere* or *biosphere*. Evolutionary cosmology teaches that the physical 'world' or cosmos, and hence cosmosphere, is a vast 'universe with numerous galaxies, stars and planets,' which is the 'Earth's home'.<sup>133</sup> In other words, the Earth, the only planet where life and its interrelationships exist, is itself a microcosm in a macro universe system. Michael Dowd says:

We have no existence outside the ecological cycles of the Earth, which in turn has no existence outside the solar system. The solar system has no existence outside the Milky Way Galaxy. The Milky Way has no existence outside the Universe. And the Universe has no existence outside the Ultimate Reality, [God for the Christian]. Everything is interrelated and interdependent. The entire process oozes divinity.<sup>134</sup>

Since 'our home' is where we can exert moral energy for pragmatic creation care, which of the two - the macrocosmic universe or the microcosmic - ecologically translates *xexeme* for the Sokpoe-Eve as 'our home'? While cosmos or cosmosphere leaves the individual with a sense of 'loss' in an incomprehensible extragalactic space, the term 'biosphere' tends to limit earthlings to biologically known living things; yet for the Sokpoe-Eve *xexeme* is holistic. Ecosphere is the term ecologists employ when we speak of the cosmic spatial regions that constitute home for all life (creation), hence, the limited place of the cosmos for environmental actions. However, 'ecosphere' as a word does not specifically mention or unequivocally point to the Earth as that cosmic home space the way *xexeme* emphasises 'earthly home' in the Sokpoe-Eve religious cosmology. Earth as our home is only implied in ecosphere. 'Gecosphere', contrarily, is straight forward in describing the Earth (*Ge*) as our home. Thus the best theologially inclusive and earthly-implied English word to communicate the concept of *xexeme* as in the Sokpoe-Eve religious cosmology may be 'gecosphere,' at least, literally. 'Gecosphere' may interpret David Bookless' use of the word 'creation' from ecological point of view as 'the Earth and all that it contains: [including] the atmosphere and the oceans, the mineral resources and the wildlife'<sup>135</sup> than 'ecosphere'. 'Gecosphere' for me describes emphatically and specifically the Earth surface and its atmospheric regions up to the sky observable with unaided eyes and no scientific calculations, as the home where *we* (human and nonhuman creation) live and act in holistic interrelationships.<sup>136</sup>

For all three traditions, *avlime* or *tsiefe* is the subterranean place for corpses and world of the living-dead. It is not part of *xexeme*, but rather inferrably the gateway, after transiting the 'gecosphere' at death, into the other side, the spiritual side, of existence. The spiritual state of existence can be in either *anyigbaxexeme* (gecosphere) for *ηλι/luwɔvɔ̄diwo* (non-godly ghosts/souls) or *dzifoxexeme* (celesphere) for *ηλι/luwɔkɔ̄kɔ̄ewo* (godly ghosts/souls).<sup>137</sup> Some

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<sup>132</sup> Foltz, 'Introduction' to *Islam and Ecology*, p. xxxix

<sup>133</sup> Swimme and Tucker, *Journey of the Universe*, pp. 1-2.

<sup>134</sup> Dowd, *Thank God for Evolution*, p. 229.

<sup>135</sup> Bookless, *Planetwise*, p. 29.

<sup>136</sup> Etymologically 'Ge' connotes Earth, 'cos' from *oikos* as home and 'sphere' as the regions around the Earth, atmosphere and stratosphere (sky). These are the three major ideas conceptualised in *xexeme* in the Sokpoe-Eve mind-picture of the world.

<sup>137</sup> I see this word *avlime/tsiefe*] as mind-picture carried from traditionalists or primal imagination, where it is known to be abode of corpses, but also for *ηλιwo/luwɔwo*, (ghosts/ souls), which according to Grey Kwame

of the primal religionists are not sure whether *avlime* is a permanent abode of their living-dead, nor do they conceive *dzifoxexeme* as a possible abode after physical death. But they believe that some living-dead, favoured by God to correct their past evil lives, do return from *avlime* to the Earth as *amedzɔdzɔ* (a reincarnate) or *ameteƒe* (a replacer) in the *Anyigba xexeme/kodzogbe*. The rest of the souls, both the incorrigible and ancestral spirits remain in the spirit state, shuttling and roaming between *avlime* and *kodzogbe* (the Earth surface).

Although a few of the Christian respondents also believe in reincarnation, generally, the 'souls or ghosts' (of Christians) and 'departed spirits' (of Muslims) do not remain permanently in *avlime*. Christians picture *avlime* as a rendezvous appointed by God where their ghosts await judgement day. Muslim departed spirits move out of *avlime* and keep roaming on the Earth till judgement day. For both Christians and Muslims the souls of the departed reunite with their earthy bodies in *avlime* for resurrection on judgement day. All three religious traditions then conceive *avlime* (the under world below the Earth or 'subterresphere') serving as the cosmic interface for transition between the physical and the spiritual states of life, the temporal and the eternal, the Earth and the Heavens, the human world and the ancestral world.

Thus, I suggest that the English words that may best provide a closer and literal translation of the three dimensions of existential space in the Sokpoe-Eve religious worldviews may be 'celesphere' for *dzifoxexeme* (in the case of Christians and Muslims only), 'gecosphere' for *anyigba xexeme* and 'Subterresphere' for *avlime*, the transitional rendezvous between *gecosphere* and *celesphere*.

Since my penultimate concern is how the religious cosmologies thus analysed and outlined influence moral ecological relations of the Sokpoe-Eve for ultimately informing the Theology curriculum design, it is necessary to investigate their religious eco-values and ethical praxis also.

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seem ubiquitous, easily moving from subterrestrial to terrestrial systems. In terrestrial systems they can remain in either spirit forms or wear physical bodies temporarily; when in temporal physical bodies they appear to living eyes as *nukpekpe*, strange-encounter, since they are not expected in physical state again in *kodzogbe*.

## CHAPTER 9

### RELIGIOUS ECOLOGICAL VALUING, ETHICS AND PRAXIS OF THE SOKPOE-EVE

#### 9.1 Ecological Valuing of Primal, Christian and Islamic Traditions of the Sokpoe-Eve

Let me reiterate that a significant emphasis in my proposed African theology curriculum for PUCG and other African Christian higher educational institutions is it having potential to stimulate practical African religious and moral eco-sustainability. This is because meaningful responsibility for creation goes beyond academic belief and touches our personal lives, our lifestyles, and how we personally affect the environment. It must engender commitment to concrete or practical ecological actions,<sup>1</sup> a commitment believed to be more effective when rooted in our eco-cultural contexts.<sup>2</sup>

Pragmatically this requires ecological ethics, the moral (right and wrong) relationships between humans and the world around us.<sup>3</sup> But eco-ethics is based on our cosmologies and it directs how we ought to live and act to sustain our ecological community.<sup>4</sup> For an African example in designing the proposed African theology I investigate the religious eco-ethical praxis of the Sokpoe-Eve, based on their religious cosmologies analysed in the previous chapter. But I begin with a fundamental feature of practical ecological ethics: ecological values.

Two hypothetical questions drawn from living scenarios in the ecological area were used to assess the religious ecological valuing systems of the Sokpoe-Eve who participated in this study. The first was from the Eve name '*amewuga*' literally 'the human being is more than money.' The second was from a historical flooding event in the area in 1963 due to the construction of the Akosombo dam. It asked for participants' preferred order of rescuing some drowning representatives of creation - human, goat, gold nugget/money and tree - within a limited time, with reasons.

To the question: 'As a Traditionalist how will you explain the Eve name '*Amewuga*' all twelve out of twenty-five primal religious interviewees asked this question gave similar responses from separate interviews. They did not only espouse the message or philosophy behind the name but would so name their children for the same purpose. Enyi Avenogbo, for instance, considers it *ahamaŋko* (insinuating name), but will name his child accordingly to remind himself and others that 'when I die my money will not carry me to my grave by itself.'<sup>5</sup> He explained the name with many more instances, all to indicate that money cannot take initiative, reason on life issues, or affect emotionally and so cannot fellowship like humans do. Hence 'humans are of more value than money,' he concluded. Klayi Avi argues that 'money cannot serve by itself; it requires human to use it.'<sup>6</sup> He means that without servicing by human beings a gold nugget or its minted coin as money, for instance, does not have any worth by itself. On his part Efoe Avinyo Atiglo said:

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<sup>1</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 13.

<sup>2</sup> Agbanu, interview at Legon, 15 November 2015; Curry, *Ecological Ethics*, p. 156.

<sup>3</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 37.

<sup>4</sup> Curry, *Ecological Ethics*, p. 3.

<sup>5</sup> Enyi Avenogbo, interview at Sokpoe-Elavanyo, 2 February 2016.

<sup>6</sup> Klayi Avi, interview at Sokpoe, 2 February 2016.

Gold or money does not talk; only human can talk with me. What can counsel or share thoughts with me is more valuable than all things around me.<sup>7</sup>

Avinyo's logics may be assembled as follows: rational beings who communicate are more of value than anything else; only humans are rational and communicate; humans then are most valuable of all things around him in the ecosystem. It is not difficult to infer that the primal religionists' comparative valuing of human and abiotic (the nonhuman non-living things) is anthropocentric. Generally from their responses, the criteria for valuing include qualities of volition or initiative taking, reasoning ability or rationality, having affection or emotions and sharing or possessing communication skills. For them, in contrast to aspects of nonhuman creation such as gold mineral only humans manifest these qualities and, therefore, are of value in themselves. The abiotic creation such as gold mineral have only instrumental values in that they are to service humankind to be of value. What about human relations with nonhuman but living creation?

The second question derived from the 1963 deluge scenario also received varied answers, but with reasons that led to same conclusions (Table 9.1).

**Table 9.1 Eco-Valuing of Primal Religionists Indicated by Order for Rescuing Drowning Creatures**

Descending order of rescuing creatures	Number of Respondents	Some Major Reasons
Human-Gold-Goat-Tree	18	1. The human can work for me, gold can purchase human needs; goat and tree may die 2. Gold cannot purchase human life. Human is thus more important. Gold can buy another goat for me. 3. Human is my fellow being. He can help me if alive. Gold will help purchase my needs. 4. Human is fellow living being. Gold purchases needs of the man. Goat also is living; tree does not breathe like man and goat. 5. Human is fellow living being. Gold purchases food for the man. Income from goat is faster and more than from trees.
Human-Goat-Tree-Gold	3	Human is fellow living being. Goat for food; tree for housing. Gold has no life.
Human-Goat-Gold-Tree	3	Human is fellow living being. Goat for food; gold is money or power to purchasing; tree for housing and fire.

<sup>7</sup> Kofi Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016. See appendix 12 for transcript.

For instance, Amega Enyi Avenorgbo explains that 'The human can work for me, gold can purchase human needs. As for the goat and tree, they may die.'<sup>8</sup> Here valuing ecological components is based on the magnitude of how each item benefits human, and thus is highly anthropocentric. Both George Grey and Klayi Avi gave similar anthropocentric reasons, but introduced also the idea of life, and hence biocentrism. 'Gold cannot purchase human life,' says George Grey. 'Human is thus more important than the other things. Gold can buy another goat for me.'<sup>9</sup> His main criterion is 'life', but particularly human life; even gold's instrumental value is because it can provide animal life to benefit human life eventually. Klayi Avi adds 'Human is my fellow being. He can help me if alive. Gold will help purchase my life needs.'<sup>10</sup> While responses of Agboklu and Avinyo also suggest biocentrism, they prioritise human and animal life against tree life, and thus appear zoocentric in the biosphere. As Avinyo said, 'Human is fellow living being...Goat also is living, but human is my fellow being; a tree does not breathe like man and goat.'<sup>11</sup> Similarly, for Agboklu, 'Human is fellow living being' and 'Goat can kid quicker for sales than fruiting of a tree.'<sup>12</sup> Their criteria then seem to be primarily 'life', but in the order of human, animal and tree. This is biocentrism, but particularly, zoocentrism. And gold's value as non-life thing is based on its benefitting human life - anthropocentrism. Generally then valuing of creation by participating primal religionists in Sokpoe ecological area is a mixture of biocentrism, zoocentrism and anthropocentrism. Only humans have intrinsic values; all nonhuman - both biotic and abiotic - have instrumental values.

Thus for the primal Sokpoe-Eve, like other African primal religionists, ecological values and ethics are ultimately anthropocentric. Agbanu's study on the Indigenous Environmental Ethics of the Mafi-Eve of North Tɔŋu in Ghana makes almost similar observations. He concludes that their ecological ethics is anthropocentric, but mixed with biocentrism and ecocentrism.<sup>13</sup> Ogbu Kalu expresses surprise at this, wondering that 'In spite of the remarkable awareness of spiritual forces, the African places man (sic) at the centre of the universe.'<sup>14</sup> Kwame Bediako makes similar observation for most African cultures.<sup>15</sup>

Christian and Muslim participants in the study answering the same questions indicated similar ecological valuing of creation. For instance, the Christian participants espoused both the literal meaning and axiological implication of the name '*amewuga*', human is more valuable than money. Their reasons included humans possessing qualities of emotionality, rationality, lingual skills, initiative taking and relatively higher versatility, which, in their view, non-living aspects of nonhuman creation lack. Further evidence was from the question of the flood victims' rescuing scenario. Margaret Asuma, a deaconess of the Church of Pentecost (COP) was among sixty-one per cent (14 out of 23 interviewees) who followed the descending order of man, gold, and goat before the tree.<sup>16</sup> She gave her reasons as follows:

Although God created all things before humanity, yet human beings are more important among all the things. Gold/money follows because as money it enables

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<sup>8</sup> Enyi Avenorgbo, interview at Sokpoe-Elavanyo, 2 February 2016.

<sup>9</sup> George Kwame Grey, interview at Sokpoe, 2 February 2016.

<sup>10</sup> Klayi Avi, interview at Sokpoe, 2 February 2016.

<sup>11</sup> Kofi Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>12</sup> Agboklu, interview at Sokpoe, 2 March 2016.

<sup>13</sup> Agbanu, 'Environmental Ethics in Mafi-Eve Indigenous Culture', p. iii.

<sup>14</sup> Kalu, 'Precarious Vision' p. 41.

<sup>15</sup> Bediako, *Jesus in Africa* p. 92.

<sup>16</sup> Actually 5 of 23 (22%) had goat instead of tree to be last in the rescue order, but the reasons advanced were almost like those (9 of 23, 39%) who would rescue tree last. In both groups the emphasis seems anthropocentrism and biocentrism.

humans to be complete; the goat will be for food, and so will be the third. As for the tree it may drown. No problem. Even today the order of rescue will not change.<sup>17</sup>

For Deaconess Margaret Asuma, like those with similar views, the human has life and is created in God's image; both the rescued human and the rescuer are fellows, *Homo sapiens*.<sup>18</sup> Analysis of all the other explanations by these respondents indicated, however, that their criteria for valuing creation generally included life, breath and economic worth. Both human and goat breathe *tsixetsixe* (visibly inhale and exhale) and so are of more sympathetic value than trees; but human is more important than goat since biblically only human is created in God's image and must attract compassion when in trouble.<sup>19</sup> Thus this first group appear more zoocentric than just biocentric, and eventually anthropocentric. The remaining 9 of 23 (39%) were even more succinct with this axiological stance. They would rescue in descending order of man, goat and tree before gold, an indication of anthropocentrism, zoocentrism and biocentrism. Explaining in separate interviews Dickson Degbe Blasu and Maxwell Agbewovi, both of the Apostolic Revelation Society (ARS) minced no words: *Nusiwo me agbe le la xɔ asi wu nuwo katâ; eyata maɖe ame, egbɔ̃kple ati hafi aɖe ga* (living things are worthier than all things; hence I shall rescue the man, goat, tree before gold).<sup>20</sup> Clearly, for this second group of Christian respondents, life is of more value than non-life; animal life is more valuable than plant life, and human life is of most value among all animals. Thus like the primal religionists the Christian participants' eco-valuing of creation in this study mixed biocentrism with zoocentrism but are practically more anthropocentric.

Neither were the results different from the participating Muslims. Their Islamic eco-valuing was guided by considering factors of biological life, sentience, breath, economic worth, livelihood or preoccupation, Islamic devotedness to pleasing God and the geographical location. Like both the primal and Christian respondents, the Muslims' ecological values are anthropocentric but mixed with biocentrism and zoocentrism.

It is significant, however, to note that like the Christians, two sets of responses were analysed from the participating Muslims. Apparently, geographical location appears to influence both some Christians and Muslims in their biocentric eco-valuing. In this work, all the respondents appear to generally mix biocentrism and anthropocentrism, but practise anthropocentrism. All the same, rural dwellers seemed to value floral components of the ecosystem relatively more than big town residents. For instance, we saw earlier how respondents like Deaconess Margaret Asuma, who lives in Bodzodife, a suburb of Sokpoe Township, concluded her response saying 'As for the tree it may drown. No problem.'<sup>21</sup> Meanwhile she is a bread baker who depends heavily on wood fuel. A similar observation was even more noticeable among the Muslims. Sixty three percent (10 out of 16) of the interviewees who dwell in the capital town, Sogakofe, seemed to value trees less compared with the thirty seven percent (6 of 16) living in the savanna grasslands of Dabala. The rescue plan of the town dwellers was from man, gold, goat to tree. For instance, Hajia Fatti Sanni of the Sogakofe Zongo eco-community explained her flood victims rescue plan as follows:

First will be the man because he is my fellow human being; if rescued he will help me work to get the goat and money. However, if time allows I shall go for the goat since

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<sup>17</sup> Margaret Asuma, interview at Sokpoe-Elavanyo, 25 February 2016. See appendix A17 for transcript.

<sup>18</sup> Mary Adzabeng, interview at Sokpoe, 21 June 2016.

<sup>19</sup> James Cudjoe, interview at Sokpoe, 26 June 2016.

<sup>20</sup> Dickson Degbe Blasu, interview at Sokpoe 3 February 2016; Maxwell Agbewovi, interview at Sokpoe, 26 February 2016.

<sup>21</sup> Margaret Asuma, interview at Sokpoe-Elavanyo, 25 February 2016. See appendix A17 for transcript.



it also is living. Then the third item will be the gold/money, which will help care for my children. As for the tree it may drown, I can plant another.<sup>22</sup>

In the same way the chief Imam Abu Bakar at Sogakofe Zongo ended his response with 'as for tree it is not of any importance.'<sup>23</sup> Idrisu Ibrahim, son of the Zamarama *sarechi* (chief) of Sogakofe Zongo thinks 'the tree may go; if it is lost we can look for another to plant.'<sup>24</sup> For this group floral components of the ecosystem seem worthless, having no immediate thought of benefits to human beings and so do not matter if lost. But I pointed out to Idrisu that he had responded to an earlier question 'when the weather is hot where do you expect some cooling effect?' that 'trees provide shade and coolness in the environment.' Then he remembered that 'both Qur'an and a hadith of the prophet Mohammed promise Allah's blessings on anyone who encourages planting or caring for trees to provide shade for human beings.'<sup>25</sup> He could not remember nor was it possible to locate the particular '*surakatu jaria*' he alluded to from the Qur'an. However, some *hadiths* (words and deeds) of Prophet Mohamed indicate his concern for the protection of natural resources as a desert dweller.<sup>26</sup>

The second set of Muslim interviewees, the savannah dwellers, on the contrary, gave their rescue plan as man, goat, tree and gold/money. By putting the tree in third position, lining up the biotic before the abiotic elements is to suggest stronger biocentrism (though with anthropocentric reasons), and more concern for flora, than the first group who placed the tree last.<sup>27</sup> Their Sahelian background and current geographical location in the research area where they reside in dwellings with grass-roofs in the dry open grassland outside Dabala town<sup>28</sup> would mean that they tend to value trees more than the other Muslims living in the towns of Dabala and Sogakofe. Unlike the town dwellers, these open savannah dwellers exposed to vagaries of the weather, saw the instrumental worth of a tree in providing shelter, rafters for their huts, rainfall and browsing material for their ruminants. Mohammed Abdullah explained from home experience as a Sahelian from Niger that 'these are values of great concern for savannah life, because the absence of adequate trees in Burkina Faso, Mali, Niger and even Mecca account for their low rainfall.'<sup>29</sup>

As I indicated in the introduction of this chapter axiology is fundamental to ethical praxis. Having analysed the religious eco-valuing systems of the Sokpoe-Eve I necessarily move next to learn how this religious eco-valuing influences their moral ecological actions to sustain creation.

## 9.2 Impulsion for and Praxis of Eco-ethics by Primal, Christian and Islamic Traditions

To gain an insight of the Sokpoe-Eve's motivation for and praxis of religious eco-ethics I posed questions about their knowledge of and reasons for ecological regulations and rules. From the responses of the primal religionists there are varied situations that influence or motivate the eco-ethical praxis of the Sokpoe-Eve. These include desire for good harvest, altruistic social concerns, avoidance of legal actions and fear of punishment by deity.

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<sup>22</sup> Hajia Fatti Sanni, interview at Sogakofe, 20 April 2016. See appendix A23 for transcript.

<sup>23</sup> Imam Abu Bakar, interview at Sogakofe Zongo, 5 May 2016.

<sup>24</sup> Idrisu Ibrahim, interview at Sogakofe, 23 April 2016.

<sup>25</sup> Idrisu Ibrahim, interview at Sogakofe, 23 April 2016.

<sup>26</sup> Foltz, 'Introduction' to *Islam and Ecology*, p. xxxviii.

<sup>27</sup> Those in this second category included Alhaji Hammah (a Fullani), Musah Mohammed (Malian), Musah Salleh (Nigerien), Idrisu Shaibu (Nigerien), Mohammed Abdullah (Nigerien), and Mahazui Awudu (Hausa).

<sup>28</sup> See Map 2 on page xviii.

<sup>29</sup> Mohammed Abdullah, (trainee imam), and Musa Salleh, interview at Dabala, 25 May 2016.

Sometimes the motivating factor is at the same time an ecological action or ethical praxis in disguise. The eco-ethical principles and norms that sustained both ecosystemic harmony and good yields in pre-Akosombo dam days were mainly taboos or prohibitive and inhibitive rules to determine who, how and when to access ecological services for the best and sustainable results from the ecosystems - water, land and forest.

Sokpoe is predominantly a riverine ecological area on the Volta River.<sup>30</sup> Yet, significantly primal religionists in Sokpoe do not sacralise the great *Amutɔsisi* (Volta River) itself as per the responses from the entire interviewees in this study. I know it for a fact myself, too. There is neither veneration nor fear of *Amutɔsisi* as a deity. There are, for example, no religious restrictions as in some African cultures, pertaining to accessing its water resources by menstruating women. No religious prohibition or inhibition of anyone directly fetching water from, washing laundry in, wading through, and crossing with canoe, bathing in the waters or subsistent fishing in *Amutɔsisi*.<sup>31</sup> Even though some regard a few of the tributaries as sacred,<sup>32</sup> there are no special or regular religious rites and rituals associated with the water bodies *per se*.<sup>33</sup> Instead, in all cases the water eco-ethical regulations in the Sokpoe ecological area are concerned about the contents of the water bodies, the fish, oyster/clam and alluvial soil: how they are exploited, by whom, at what time and for what purposes. Thus, apart from clam-picking laws, the eco-ethical regulations and practices relating to water bodies in Sokpoe ecological area are not necessarily motivated by fear of any deities or spirits of the water *per se*. They are rather anthropocentrically based on concerns for social and economic benefits.

For instance, fishing is eco-regulated mostly with inhibitive taboos that ecologically 'buy' time for a good yield at harvest. In separate interviews with Enyi Avenorgbo and Klayi Avi, they each recalled that before 1963 when the Volta flooded and filled the *tɔvuwo* (creeks, rivulets), *tavewo* (lagoons) and *tagbawo* (ponds) by July-August, creek fishing would be temporarily banned (inhibited)<sup>34</sup> until the high water levels of the *Amutɔsisi* (Volta) started dropping by the second week in October or early November.<sup>35</sup> The Alɔɔ (Zoyi) clan of Sokpoe, for example, were often motivated by social altruism to regulate fishing in their creeks. That is to say they would not sell the produce from their creeks and lagoons to any other person(s) to harvest; rather fishing in the creeks would be delayed until March when the *hlɔʒatɔ* (clan head) would lift the ban for the entire clan to go and harvest themselves. In this way they believed the fish developed well, the water volume ebbed very low to enhance their selective fishing methods that aimed at ensuring even children and women had a catch by simply scooping the fish with baskets.<sup>36</sup> Suggestively, for the Alɔɔ, the moral motivation for

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<sup>30</sup> See Maps 1 and 2 on pp. xvii-xviii.

<sup>31</sup> George Kwame Grey, interview at Sokpoe, 2 February 2016.

<sup>32</sup> It appears the creeks on the Xevie clan farming lands are considered sacred as per the submission of Efoe Kofi Avinyo Atiglo in interview at Sokpoe-Elavanyo on 15th February 2016. He says this in respect of Agasigbe taboo, which he thinks is 'the day of a spirit in the creek'. However, other narratives place Agasigbe taboo as a regulation of a chief of Agave traditional area called Aga. He set that day apart for settling issues brought to his court. Hence, most people would not go to farm or fishing in order to attend the court. In the process the day became adopted as a traditional taboo. Geoffrey Siame in a personal phone communication on 25th October 2016 espoused this view and adds 'this is why some elders of Sokpoe do not obey Agasigbe so as not to appear subservient to the Agave traditional council.'

<sup>33</sup> Anthony Kɔwu Yɔhokpɔ, interview at Sogakɔfe, 17 February 2016.

<sup>34</sup> Enyi Avenorgbo, interview at Sokpoe-Elavanyo, 2 February 2016 and Klayi Avi, interview at Sokpoe, 2 February 2016.

<sup>35</sup> Sitɔ Loli, interview at Sokpoe, 4 March 2016.

<sup>36</sup> Enyi Avenorgbo, interview at Sokpoe-Elavanyo, 2 February 2016; George Kwame Grey, interview at Sokpoe, 2 February 2016. Usually since the water volume is already low they build semi-circular mud-dams that trap both water and fish between the bank and the wall of the dam; the water is scooped out and the fish fetched with baskets.

complying with the 'creek-fishing-ban' after flood season is altruism - a selfless concern for the majority interest; all the clan members must benefit, and do so from the best of yields possible in the season. Compliance may also prevent possible loss of lives during high water levels.

In other situations fear and avoidance of the troubles associated with legal enforcement of ecological taboos and regulations is both an influence of and action for sustaining eco-justice related to fishing. The high anthropocentric and economic valuing of creeks meant that 'ownership of the creeks was jealously prized'<sup>37</sup> and associated with tribal and inter-clan conflicts regarding who could and when to fish in them. Avinyo Atiglo bemoaned how that sometimes the litigation compelled title holders, against their grain, to pre-sell a season's expected catch in a creek or lagoon to fund legal defence of the land and the creek on it, even before harvesting time.<sup>38</sup> Enyi Avenogbo was very specific: 'As for *Balatsui* lagoon, fishing in it was always sold ahead of time.'<sup>39</sup> The sales were arbitrarily estimated from the previous season's catch, with a high risk factor for both seller and buyer, though the latter was often more advantaged.<sup>40</sup> Legal interventions to determine ownership were then ecological actions motivated by the need for eco-justice administered by either traditional authorities or constitutionally established courts. Cunningham and Saigo state that legal actions are some 'important ways of protecting our environment.'<sup>41</sup> In the process peace and harmony in the ecological community concerning the ownership, use of and good economic yields from the water bodies and their alluvial lands, could be sustained.

Oyster or clam is the next economic produce of the Volta River in Sokpoe eco-area with ecological importance. It is the only water produce eco-regulated with religious taboos, because it is considered by most primal religionists in the ecological area as a *trɔ̃* (female deity). That oyster could be a deity stems from its peculiar and awesome characteristics. It lives in shallow sandy beds where fishers pick them with toes through torso (body) wriggling and levering them up from the sand with toes.<sup>42</sup> But clams can occupy sandy clay river beds in deep waters where they become relatively big with dark tough shells and meaty bodies. Pickers dive from canoes into one or two fathoms [6 ft (1.3m) or 12ft (3.6 m)] of water to pick them.<sup>43</sup> According to Avinyo, some clam pickers claim from experience that, in the deep waters oyster can pile itself up into a mound or pillar and guarded by a crocodile. The unusual or wondrous scene is *nukpekpe* (fearful encounter), which in the primal belief system can induce death. Therefore, the eco-rule is to pick either none or only one clam, and not more, at a time in such an encounter, or else there is a fear of drowning. Clams are said also to float on the water surface despite their heavy finless shells and they can 'swim' rapidly with a frightening sound due to spewing water from their proboscis, particularly when migrating.<sup>44</sup> In addition, I am personally aware, even as reported by Moxon also, that some oyster pickers would lay out clam farms in the shallower waters by staking them 'early in the season and left them to fatten by as much as 60 per cent' before re-harvesting later.<sup>45</sup> The wonder here is that the clams may leave to feed elsewhere, but will always return and never depart from the farm until re-harvested by the farmer. Neither could other people have courage to pilfer them from the farm, because of fear that 'clam is a deity'<sup>46</sup> and may punish them.

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<sup>37</sup> James Moxon, *Volta: Man's Greatest Lake* (London: Andre Deutch Limited, 1969), p. 190.

<sup>38</sup> Efoe Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>39</sup> Enyi Avenogbo, interview at Sokpoe-Elavanyo, 2 February 2016.

<sup>40</sup> Efoe Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>41</sup> Cunningham and Saigo, *Environmental Science - A Global Concern*, p.216.

<sup>42</sup> Moxon, *Volta: Man's Greatest Lake* p. 191.

<sup>43</sup> Moxon, *Volta: Man's Greatest Lake* p. 191.

<sup>44</sup> Efoe Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>45</sup> Moxon, *Volta: Man's Greatest Lake* p. 191.

<sup>46</sup> Kofi Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

The commonest eco-regulation in the clam industry is its 'annual-picking-taboo'. This is a trimester inhibitive suspension put in place usually by the traditional administrative authority, from November till February. For instance, the Agave traditional area is only about five kilometres south of the Sokpoe traditional area and falls within the ecological boundary of this study.<sup>47</sup> Clam pickers freely operate within and across the eco-area irrespective of belonging to different traditional administrative authorities. Thus to ensure social harmony between Agave and the other people commonly sharing resources of the river, and to allow time for full clam development in their part of the eco-area before harvest, the Agave Traditional Council would pre-inform all stake holders about the ban as well as when it is lifted. More often than not the majority of the people who believe do comply. I chanced on one such communication of the ban during this research in the area. It was a circulated letter about the 2015-16 ban addressed to the sister traditional areas - Sokpoe and Ada - and the district law enforcing agencies. The ban began on 24th November 2015 to 17th February 2016. The last two paragraphs read:

The aim of the ban, to recall, is to help the clam breed to replenish its stock to continue to generate employment for the youth of Agave traditional area and beyond.

For peace and tranquillity during the period of the ban, we are by this letter informing and seeking the cooperation of the security agencies and alerting our neighbour traditional areas to bring the ban to the notice of their subjects for compliance.<sup>48</sup>

The direct ecological import for the clam picking suspension then is to ensure the clam population is sustained by allowing time - the taboo period - for self replenishment through breeding. It happens that such inhibited times coincide with the reproductive periods of the fish and clams, perhaps because the elders have learnt this from their long close association with aquatic life.<sup>49</sup> Indirectly, the suspension expects possible economic gains in terms of youth employment in the eco-community. In addition, circulating the letter announcing the suspension may be an ecological action in so much as it seeks peace and cooperation as a socio-ecological requirement to secure the direct ecological expectations of the ban. Here it is respect for traditional authority and expected economic gain rather than fear of the clam as a deity that underlies commitment to the taboo suspending clam picking.

Conversely, the story is different with the terrestrial ecosystemic relations. Here the responses of primal religious interviewees about human-land-forest relationships contained two frequently occurring expressions: '*ekpoa fe kɔe*' (it is a dislike of the land deity) and '*trɔku awu wo*' (the deity will kill you). They are expressions that at once, from the tone and body language of interviewees, suggest so much sacralisation of land and forests that, in their belief, to disobey '*kpoa fe kɔ*' (the forbidden of the land) is to necessarily suffer *trɔku* (death by the gods). Asked what happens if someone disobeys land and forest taboos Enyi Avenɔgbo had this to say: '*Ekwu wu nawo godoo*' (they surely die).<sup>50</sup> And Anthony Yɔhokpɔ was more succinct: '*Etrɔkui wu na wo, menye tɔgbe ɲoliwo o*' (It is the deity that kills them not ancestral spirits).<sup>51</sup> Herein is an indication that ancestors do not form a strong component like deities in the primal religious worldview and eco-ethical concerns of the Sokpoe-Eve.

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<sup>47</sup> See Map 1 on page xvii.

<sup>48</sup> I stumbled on this letter from Andrews Ahado, interview at Sokpoe, 5 February 2016. Andrews is the son of the late *Dufia* (paramount chief) of Sokpoe traditional Area, Togbe Zogah I. Hence, he has access to such documents coming to the traditional authority.

<sup>49</sup> Harry Agbanu, interview at Legon, Accra, 23 November 2015.

<sup>50</sup> Enyi Avenɔgbo, interview at Sokpoe-Elavanyo, 2 February 2016.

<sup>51</sup> Anthony Kɔwu Yɔhokpɔ, interview at Sogakɔfe, 17 February 2016.

According to Andrews Walls the difference in emphases of dominating components underscores difference in cosmologies of Africans.<sup>52</sup>

That the forests and land are considered more sacred than water systems is perhaps consequential to the migration and settlement history of the Sokpoe-Eve. Like many African primal communities observed by B. A. Ogot, Sokpoe has migration histories indicating that they were led by hunters.<sup>53</sup> The hunters invariably were also spiritual leaders in as much as they had in custody the *trɔ̃wo* (deities/spiritual powers) believed to have aided in their migratory encounters.<sup>54</sup> They would house such deities/powers in special places on the newfound land, usually in a forest. Then that forest, and hence the land carrying it, becomes designated *trɔ̃ve* (the deity's sacred forest), where rituals are performed by the *trɔ̃nua* (priest of the deity).<sup>55</sup> Yet the physical image of the deity/power itself, 'being a precious and envious religious property at the time'<sup>56</sup> may not be 'dwelling' there, but kept home. As Geoffrey Siame explained,

*Trɔ̃ve* or sacred forest is a ritual performing ground, a place to commemorate the deity's deeds and petition it. But the deity itself remains home. Only during purification ritual is it brought out, clad in white, carried into the forest for the purpose. It returns home thereafter.<sup>57</sup>

He implies that a sacred forest is a ground for petition prayer, ritual sacrifices of appreciation, renewal of faith and allegiance to the clan deity and commemoration of its past providence. Though the physical image of the clan deity does not dwell in the forest, and hence, the land, it is believed its spirit does, for which reason it is fearful. Agbanu notes a similar belief among the Mafi-Eve.<sup>58</sup> Perhaps in the people's mind, the thicker and larger the forest the more sacred it is, the more powerful the deity and so fearful are its taboos. Geoffrey Siame did not think that our forebears necessarily set forest taboos as means of sustainable care, at least, not consciously nor directly. They only knew that a forest, like mountain, tends to be '*nunɔ̃ɔ̃ le edokui si*' (fearful by itself for naturally numinous), and attracts religious attention. In their view, 'the thicker the forest the more numinous and religiously respectable or fearful the deity in it and its taboos are perceived.'<sup>59</sup>

All the same the taboos 'demanded by the deities',<sup>60</sup> enforced or supervised by owners of the forests - the clan cult leaders - do maintain harmonious relations between the deities, the forests and the people. This perhaps explains why *Balave*, the only non-sacralised forest in the area, suffered complete destruction, especially with the disregard of its taboos, led by Amega Gbadago, a Christian.<sup>61</sup> As Avinyo Atiglo explained 'the major difference between forests designated sacred and those not is the sustained actively functional taboos associated with the former.'<sup>62</sup> Some of the religious taboos of sacred forests are listed in Table 9.1

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<sup>52</sup> Walls, 'African Christianity in the History of Religions' p. 124.

<sup>53</sup> B. A. Ogot, *General History of Africa: V - Africa from the Sixteenth to the Eighteenth Century*, (Paris: UNESCO, 1999), p. 25.

<sup>54</sup> The historic piece in this work is extracted from my on-going unpublished project *The Narrative and Cultural History of the Zoyi of Zoyikpo*.

<sup>55</sup> Togbe Dagadu, interview at Sokpoe, 4 March 2016.

<sup>56</sup> Geoffrey Siame, interview at Sogakɔfe, 17 February 2016.

<sup>57</sup> Geoffrey Siame, interview at Sogakɔfe, 17 February 2016. See appendix 13 for transcript.

<sup>58</sup> Harry Agbanu, interview at Legon, Accra, 23 November 2015.

<sup>59</sup> Geoffrey Siame, interview at Sogakɔfe, 17 February 2016.

<sup>60</sup> Togbe Dagadu, interview at Sokpoe, 4 March 2016.

<sup>61</sup> Edward Kattah, interview at Sokpoe, 11 March 2016.

<sup>62</sup> Kofi Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

**Table 9.1 Sacred Forests and Associated Taboos in Sokpoe**

Name of Forest	Location	Religious Taboo	Primal Religious Reason
Alɔɔdzove and Dzixeve <sup>63</sup>	Sokpoe-Bodzodjife and Sokpoe-Votenu, respectively	No entering on <i>Agasigbe</i>	The resting day of the land and forest deities - 'Ebo' and 'Alɔɔdzɔ'. It is the day for <i>nuxexe</i> (ritualistic sacrifices).
		No entry for Women, especially if in menses.	It is impurity before the deities and desecrates the forest.
		May harvest food/fruits only. No harvesting of wood - dry or fresh - for fuel or building.	Vegetation removal is nudity of the deities. They permit not forest wood for fuelling domestic fire.
		No clearing nor weeding of forest	Vegetation removal is nudity of the deities.
<i>Kotiveme</i> <sup>64</sup>	Sokpoedume	No bush or charcoal burning	It is like 'smoking' the deity
		Inside the forest don't respond vocally when called. Just walk to the caller.	It is unnecessary noise; disturbs the tranquillity for relaxation of the deity.
		Leave a third of harvested sweet berries under baobab tree ( <i>Adansonia digitata</i> )	Failure incurs dwarfs' fury to mysteriously make you lose the way out of the forest.
		No defecation in forest <sup>65</sup>	It messes room of dwarfs/gods
		No entering on <i>Agasigbe</i>	The resting day of the land and forest deities. It is the day for <i>nuxexe</i> (ritualistic sacrifices).
<i>Nyadengove</i> <sup>66</sup>	Sokpoe-Kutuɔkɔfe	No entering on <i>Agasigbe</i>	The resting day of the land and forest deities. It is the day for <i>nuxexe</i> (ritualistic sacrifices).
		No entering if indulge in sexual intercourse within 24 hours.	It is unholy state before the deity and desecration of the forest
		No harvesting of firewood or building rafters. <sup>67</sup>	It makes forest deity naked or unclothed
		May cut wood for building but only after special ritualistic prayer by and supervision of the priest. <sup>68</sup>	
<i>Mɔkɔdzɛve</i> <sup>69</sup>	Sokpoe-Mɔkɔdzɛ	Neither shirt nor shoes or hats must enter forest. (Enter with bare chest and feet).	Not to obey is a disgusting show of haughtiness to the forest deity.
		No entering on <i>Agasigbe</i>	The resting day of the land and forest deities. It is the day for <i>nuxexe</i> (ritualistic sacrifices).

Like the primal religionists, the Sokpoe-Eve Christians and Muslims also answered the same questions to show their translation of eco-values into eco-ethical actions to care for

<sup>63</sup> Enyi Avenɔgbo, interview at Sokpoe-Elavanyo, 2 February 2016.

<sup>64</sup> Dzeife Kpavi, interview at Sokpoe, 27 May 2016.

<sup>65</sup> George Kwame Grey, interview at Sokpoe, 2 February 2016.

<sup>66</sup> Kofi Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016; Togbe Dagadu, interview at Sokpoe, 4 March 2016; Samuel Agboklu, interview at Sokpoe, 2 March 2016.

<sup>67</sup> Geoffrey Siame, interview at Sogakɔfe, 17 February 2016.

<sup>68</sup> Kofi Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>69</sup> Samuel Agboklu, interview at Sokpoe, 2 March 2016.

the cherished riverine ecosystem. It was obvious from their responses that there are no eco-ethics or norms (practical regulations) and rituals to guide ecological actions toward creation care that could be described distinctively as 'Christian' and 'Islamic', respectively. They all knew and could speak of only the primal religious eco-ethics and praxis that have been in the ecological area to date discussed above. The study, therefore, sought further to understand how Christians and Muslims perceive and engage with such primal religious ecological ethics and praxis.

Among the responses typical of most of the Christian participants was that of Isaac Avi of Church of Pentecost (COP). For him the ecological taboos are not evil for the Christian; they are institutions that reveal the mind of God about how we should relate with and maximise our use of the water and land resources sustainably. Pertaining to water taboos for instance he says:

As a Christian I see nothing wrong with the water taboos. However, it is improper to have the taboos ascribed to *trɔ̃wo* (local deities). The Christian must understand that naturally fish must be well developed before being harvested. The regulations are of God. All humans, both *trɔ̃subɔlawo* (traditionalists) and *Kristotɔwo* (Christians) need to recognise the taboos as God's provision implanted in our minds; they are not rules made by humans who worship deities.<sup>70</sup>

Isaac Avi, like others, understands that the water taboos in the Sokpoe ecological area are theistic religious instruments to help discipline ourselves against interfering with God's natural law or timeline for fish to develop before being made available for human consumption. In his expectation, Christians should already know that God is the Creator and provider of all human needs, including the water and fish. As such they need not excuse themselves with having ignorance of this natural order of God, which should intuitively prompt us to keep the water bodies undisturbed from time to time for their maximum output to benefit us. He sounds like Saadia Khawar Khan Chishti, who argues from Islamic worldview that humankind has '*fitra*' an instinctive predisposition for creation care that need not be instilled but only awakened by Islamic ecology from the *Shari'a*.<sup>71</sup> Isaac Avi similarly disdubs ascribing what God originated and planted instinctively in us to Earth deities of primal religion.

The main argument of Christians like Avi Issac is that the setting and obeying of the taboos should be in honour of the Creator and Provider, God. They seem to advocate for a Christian theocentric eco-valuing and praxis rather than shrouding them in primal religious myth. With this understanding and expectation most of them tend to practically devalue, yet they do not also actively or always disobey the taboos. A nonagenarian and former presbyter of Presbyterian Church of Ghana (PCG), Mary Awusi Blasu, is not happy with the primal religious fears associated with the taboos, but cannot challenge an old ancestral institution that was before her birth. As she put it:

*Medze nyunye ya o gake eya wɔm wo nɔ hafi va dzim. Nye mateɲu agbe nu le egbo o, togbɔ be me nye Kristotɔ hã.*

I do not like it [the taboo], but it has been long there in practise before I was born. I cannot refuse to recognise it, though I am a Christian.<sup>72</sup>

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<sup>70</sup> Isaac Avi, interview at Sokpoe, 2 February 2016. See appendix A20 for transcript

<sup>71</sup> Chishti, '*Fitra*: An Islamic Model for Humans and the Environment.' p. 67.

<sup>72</sup> Mary Awusi Blasu, interview at Sokpoe-Elavanyo, 1 February 2016.

In other words, she does not value nor fear the taboos yet will not intentionally, on grounds of being a Christian, flout them either.<sup>73</sup>

But there were other Christian responses like that of Winner Eworyi who will not enter nor harvest firewood from a *trɔ̃ve* (sacred) forest for fear of the deity which resides there. She acknowledges that

God is powerful, but *abosam* (Satan) also has its power. *Trɔ̃subɔlawo* (traditionalists) perform religious rites in the *trɔ̃ve* (sacred forest), because the deity's power is there. I so believe even as a Christian. I shall never contend them and enter the sacred forest, for fear of the *trɔ̃*(deity).<sup>74</sup>

Miss Eworyi shall inferably obey the primal religious taboo that forbids women from entering let alone harvesting firewood from sacred forests primarily, because of fear of some possible punishment by the forest deity; at least, not due to any implicit ecological importance of the taboo or for the sake of honouring God. On his part, Daniel Agbota represents yet a third category of Christian responses. He does not think the indigenous religious taboos entail any ecological significance or fearful respect for forest/land deities, because Christian teachings have demystified the fears associated with the forests. As he expressed it,

Now Christian faith *de vɔvɔ̃ da* (has removed the fear) around sacred forests rendering the rites performed in them useless. In fact, some of us Christian youngsters wish that all the sacred forests are cleared for building projects. I have already started; I bought part of *Kɔtive* for my building project.<sup>75</sup>

Thus, Daniel Agbota does not only advocate for all primal religious forest/land taboos to be proscribed to free the forested lands for physical developmental purposes, he has himself initiated the move and bought part of *Kɔtive*. My personal inspection after listening to him revealed how that this forest (*Kɔtive*) has indeed reduced drastically in size from what I knew of it from my basic school days in the early 1960s, suggesting a high rate of encroachment. Ben-Willie Kwaku Golo, at a Christian-Muslim inter-faith lecture, argued from research that by disenchanting the natural world, and especially when an expected eco-deity's retribution against violation fails, Christians and Muslims disregard and defy the eco-taboos.<sup>76</sup>

Indeed, a similar attitude was observed among the Muslim participants. In separate interviews some of them remembered, for instance, that before the Akosombo dam-caused deluge of 1963, *Avadzake* and *Aqɔdzi* were the main and sacralised creeks or tributaries at the eastern bank of Amu (Volta) River. They recollected also forests around these water bodies as well as eco-regulatory systems enforced by the indigenous Eve amongst whom they lived. But their responses indicated that they disregarded such eco-regulations as satanic concepts and practices of *dutɔwo* (indigenes). Zongo *sarachi* Abdullah Muhammad, for instance, knew that at Sogakɔfe before the 1963 deluge 'Wome *klɔa agbelimakusi le Amu tɔsisi me o.*' (It was forbidden to wash a cassava dough carrier basket in the river Volta).<sup>77</sup> Yet when asked: 'What is your comment on the primal religious water regulations and rituals as a Moslem?' he answered:

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<sup>73</sup> Mary Awusi Blasu, interview at Sokpoe-Elavanyo, 1 February 2016.

<sup>74</sup> Winner Eworyi, interview at Sokpoe 3 February 2016. (See appendix A 21 for transcript).

<sup>75</sup> Daniel Agbota, interview at Sokpoe, 5 February 2016. (See Appendix A35 for transcript)

<sup>76</sup> Dr. Ben-Willie Kwaku Golo, 'Environment and Spirituality: The Climate Crisis As A Spiritual And Moral Challenge', A paper presented at the Presbyterian Inter-faith Research Resource Centre (PIRRC) 7th Annual Interfaith Symposium 2015, at the Eben-ezer Presbyterian Church Hall, Osu Accra, 14th October, 2015.

<sup>77</sup> Abdullah Muhammad, (zongo sarechi), interview at Sogakɔfe, 5 April 2016.



Taboos and rituals are for *dutɔwo* [the indigenous Eve] landlords. They are not good for Muslims. Muslims observe no such *dekɔnuwo* (cultural rituals, rules), in order not to stray. We obey only that which is of and from God's word. If *dekɔnutɔwo* [cultural or primal religious persons] tell me not to wash cassava dough basket in the river I shall not obey. As an example, because only Qur'an forbids pork, we do not eat it.<sup>78</sup>

Answering the same question in another interview an Eve, Memuna Kudi, converted to Islam, believes, with her primal background, the reality of the religious ecological taboos and rites. But now as a Muslim she does not observe rules that Islam forbids. She claimed that

*Muslimtɔwo ya la kɔ aɔke mele mia ŋu o. Eyata nye ya mateŋu atsɔ ze yibo ayi kutsi eye naneke mawɔm o.'*

Muslims have no taboos or rituals to observe. So I can fetch water with soot-tainted pot from the river without suffering any danger.<sup>79</sup>

She implies that as a Muslim her faith expunges the existence of water spiritual forces or deities, let alone being afraid of their punishment for flouting their taboos. Similarly, Ademu Ibrahim, the Zamarama (Nigerien) *sarachi* of Sogakɔfe zongo, born to an Aŋɔ-Eve woman, remembered forests around *Avadzake* and *Aɔɔdzi* creeks.<sup>80</sup> But he did not know any primal religious eco-ethical regulations associated with them nor did he think any such taboos, if there were, could negatively affect him as a Muslim if and when flouted. His reason was that as long as he did not believe in the deities, flouting taboos associated with them would not affect him.

Apart from disenchanting nature the Muslim participants in the study seemed not to be aware of Islamic ecology and held a strong anti-primal religious disposition that did not motivate them for earthkeeping. Ademu Ibrahim, like Hajia Fatti Sanni, was highly convinced that the Qur'an says nothing about such forest laws; rather God as Creator has gifted forests for our use without any restrictions. For him and Hajia Sanni, to prohibit forest use with primal religious taboos is to deprive people of God's gift; it is 'not what God told us,' and hence, it is sinful. 'No Muslim', Ademu asserted, 'will observe such taboos unless it can be found in Qur'an.'<sup>81</sup> Obviously he and Hajia Sanni had no idea of keeping sacred forests, called *harim* zones or green belts, in *shari'a* as a legal Islamic means of environmental conservation praxis. Llewellyn states that according to Islamic law, every settlement (*'amir*) should have a surrounding *harim* resembling a green belt with the right to acquire or develop it restricted.<sup>82</sup> The high anti-primal religious feeling of these participants was exemplified more particularly in the unequivocal submissions of Alhaji Hama. He feared that *agasigbe* taboo, which sets one day in a five-day-week aside, like a Christian Sabbath, for not farming was and still is a religious practice that may stray a Muslim from submitting to only Allah as required by the Qur'an. He contended that *agasigbe* is essentially a primal religious taboo, and hence satanic. To him it contradicts Islam as it deprives the Muslim from using the free or unrestricted hours given by Allah at will to work and glorify him. Therefore, he suggested, 'if there is any good in this taboo, and for which even Muslims must obey, then it should be

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<sup>78</sup> Abdullah Muhammad, (zongo sarechi), interview at Sogakɔfe, 5 April 2016. See appendix A24 for transcript.

<sup>79</sup> Memuna Kudi, interview at Sogakɔfe, 13 April 2016.

<sup>80</sup> Ademu Ibrahim, Zamarama *sarachi*, interview at Sogakɔfe, 5 April 2016.

<sup>81</sup> Ademu Ibrahim, Zamarama *sarachi*, interview at Sogakɔfe, 5 April 2016; Hajia Fatti Sanni, interview at Sogakɔfe, 14 April 2016.

<sup>82</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 210.

put forward purely as an administrative instrument or measure of the chief, and not by the *trɔ̃nuɔ* (priest of the deity).<sup>83</sup> He insisted that if the chief also passes any environmental law through the supervision of primal religionists or Christian religious leaders or vice versa, Muslims will not obey.<sup>83</sup>

### 9.3 Practical Re-evaluation of the Primal, Christian and Islamic Religious Eco-ethics

Rationally, the retrieved primal religious taboos and undergirding reasons suggest that the taboos can be both eco-regulation principles and creation care actions at the same time. Although in most cases shrouded in religious myths, yet they have plausible and possible eco-care implications. Some of the taboos tend to undergird ethics of eco-conservation and eco-restoration while the others promote eco-preservation, eco-moral transformation and eco-justice. For instance, *Agasigbe* is a sacred day taboo, believed to be demanded by the deities. It falls on every fifth market day on the local calendar where a week has five-market days. Ecologically *agasigbe taboo*, perhaps, is an unplanned primal religious practice of conservation ecology<sup>84</sup> that ensures health replenishment or self-renewal of the ecosystem. It involves 'stopping the abuse' by continuous extraction from the ecosystem, at least once a week, and allows for land's self-replenishment to support vegetation re-growth.<sup>85</sup>

Another ecological rule that also enables non-disturbance or 'resting' for the ecosystem is *tɔsisisewo* (fishing regulations), such as *tɔve kple tame sewo* (creek and lagoon rules) as well as *afɔli dɛdɛsewo* (clam picking taboos). As noted earlier, they are more of inhibition (delay/suspension) than prohibition (stopping) regulations. For instance, fishing in creeks and lagoons are annual and last for a brief period of about three months, when flood water fills the creeks. Hence *tɔvesisise* is not to stop a once-a-year opportunity; it simply delays in order to maximise output/benefit. For the suspension of activity leaves an undisturbed condition in the creeks, which encourages fish growth, maturity and multiplication to some expected individual size and population level before harvest.<sup>86</sup> The same understanding, aim and effect go with *afɔli dɛdɛse* though the water system in this case is perennial.

The regulations for creek-fishing during the short periods of annual flood and clam-picking in the river then may be traditional versions of 're-creation' as a specific form of restoration ecology.<sup>87</sup> For in effect this regulations help to virtually re-create temporal fish and clam 'ponds' in the creeks and the river, respectively, after the previous year's good harvest to ensure 'maximum sustainable yield.'<sup>88</sup>

Conversely, taboos connected with sacralised forests are prohibitive and tend to promote preservation rather than either conservation or restoration. It can be deduced that they have an objective to ensure continuity regardless of potential for utility of the species and the entire forest ecosystem.<sup>89</sup> They generally insist, as an example, that wood from a sacred forest must not provide domestic fuel or building and constructional material. The third category of primal eco-ethical praxis discovered in the study is the use of rituals to

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<sup>83</sup> Alhaji Hama, interview at Dabala, 25 May 2016.

<sup>84</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 116 explain that 'Although there are many similarities between restoration and conservation, stewardship or management the former often entails more direct intervention to achieve a predetermined end than do these other fields.'

<sup>85</sup> Nebel and Wright, *Environmental Science: The Way the World Works*, p. 46.

<sup>86</sup> Enyi Avenɔgbo, interview at Sokpoe-Elavanyo, 2 February 2016; Kwame Grey interview at Sokpoe, 2 February 2016 and Klayi Avi, interview at Sokpoe, 2 February 2016.

<sup>87</sup> Cunningham and Saigo, *Environmental Science, A Global Concern*, pp. 116-117.

<sup>88</sup> Nebel and Wright, *Environmental Science, The Way the World Works*, p. 497.

<sup>89</sup> Nebel and Wright, *Environmental Science, The Way the World Works*, p. 496.

correct or off-set the effects of flouting ecological taboos excessively. It appears there is an indirect effect by which the rituals may prime the community for moral transformation with eco-character education and development. This is the case for taboos considered as *busu* (unpardonable ecological crimes), such as having sexual intercourse in the bush. These offences are generally believed to result in drought and famine as manifestations of divine wrath (of deities/God) against not only offenders, but the entire ecological community. Yet it appears that besides averting or off-setting the drought and famine, the experiences of costs involved, suffering of the sacrificial animals, the bashfulness of unclothed intercessors and public education for self-controlled attitudes by the traditional authority during the rituals may impact offenders or/and the entire community with moral remorse. Such religiously-influenced remorse may help offenders and the community at large to develop ecological virtues of self-discipline, especially in sexuality and ecological repentance from wanton destruction of ecosystemic life. Finally legal interventions are also ecological actions of enforcing eco-justice regarding ownership, timing and method of fishing in creeks instead of the otherwise annual disputes and litigations. Environmental justice combines civil rights with environmental protection to demand a safe, healthy, life-giving environment for everyone.<sup>90</sup>

In the case of Christians, there seem to be three analysable categories of responses to ecological relationships. The first group of respondents I call the 'Indigenised or Acculturated Christians'. They rightly maintain and are influenced by their primal religious cosmology as an African reality. For them, both God and Satan are powerful spiritual entities that influence the ecosystem in different ways and for different and opposite purposes. However, Satan, associated with primal religion, is more proactive directly, quickly and intensively in dealing with violations of eco-ethical rules than the Christian God. They, therefore, tend to fear Satan and its instructions such as the primal religious taboos and rituals. So despite their Christian faith in God as Almighty and Creator of all things they also seriously fear forest and Earth deities as agents of Satan. So they strictly respect the associated primal religious (or satanic) forest taboos for fear of and to avoid punishment by the deities. This attitude results from western missionary evangelisation.<sup>91</sup>

The second group are the 'Passive or Suspended Christians' who appear undecided for or against primal religious eco-ethics and praxis, as it were, holding back active faith. They appreciate ecological goodness in the 'old ancestrally instituted' ecological taboos except for their ascription to 'Satan's' agencies, the land and forest deities. To them this denies God his due glory as not only the Creator and owner, but more so the one who initiates and instinctively inspires us to naturally appreciate the need for creation care. In their view it is theologically sinful to deny God this glory; yet they will not challenge primal religious taboos. Rather they avoid any relations with such primal religionists' sacralised ecosystemic places, and hence, any temptations to obey the taboos. But their choice of passivity is in effect a positive ecological action indirectly. For their non-interference with taboos eventually leaves the ecosystem anthropologically undisturbed. Thus, as it seems from their attitudes and behaviours, both the 'Acculturated' and 'Passive' Christian respondents maintain some level of enchantment of nature indirectly, which may result in eco-preservation and eco-conservation implicit in the primal religious taboos.

The third group, the 'Deculturated or Western-influenced Christians', however, may pose danger to the forests/land, considering their Christian disenchantment of nature. For them Christianity has demystified the fears of forest deities and taboos - a system which only unnecessarily hinders physical and agricultural development in their mind - and spells

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<sup>90</sup> Cunningham and Saigo, *Environmental Science: A Global Concern*, p. 44.

<sup>91</sup> Meyer, *Translating the Devil*, p. xvii concludes among the Peki-Eve that demonisation of Eve primal religion did not take away converts' fear of the local deities and spirits in their practical Christian lives.

freedom for all forested lands to be cleared for developmental needs of humans. As one of them asked, 'What is a taboo when humans are hungry?' and a second declared, 'Left to us the Christian youth all sacred forests must be cleared for our building projects.' Both their Christian understanding and subsequent exploitative ecological attitude reflect a Western Christian 'dominion' theology and creation doctrine. This was theology backed with an Enlightenment view of all things as lifeless (and spiritless) commodities to be understood scientifically and to be used mainly for human ends.<sup>92</sup> Emmanuel Obeng observes that though these teaching of the church 'was wrong, narrow-minded and destructive' they influenced uncontrolled subjection of the Earth to manipulations to serve human needs.<sup>93</sup> Worst of all, it was void of primal spirituality - a situation Gillian Bediako describes as, 'erroneous and ignorant theology'.<sup>94</sup> That the negative ecological effect of this Christian doctrine descended to Africa through missionary influence may be implied from missionary Craig Sorely's experiences.<sup>95</sup> Harvey Sindima argues that it is the mechanistic or Enlightenment worldview (and theology) imported to Africa by the West, which has been largely responsible for many eco-crises faced by Africa<sup>96</sup> as part of the tropical regions where most of the deforestation has been taking place since the twentieth century.<sup>97</sup>

It is not difficult, then, to infer that the 'Deculturated Christians' in this study still maintain the Western Christian missionaries' teaching void of primal spirituality. They tend to disenchant nature and anthropocentrically value the land and forests as to meet only agricultural and infrastructural development needs of humanity. The serious ecological implication of their position is that by eroding the fears associated with sacred ecosystemic places their type of Christianity may negatively impact any implicit eco-caring effects of the traditional taboos. Ernestina Afriyie opined that traditionally Africans are likely to treat the environment with little or no respect when their belief in the relationship of the deities and ancestors with nature is undermined.<sup>98</sup>

In summary, the African perception of nature is generally theistic, which when properly interpreted by the gospel and converted to a theocentric view, may be sufficiently a fundamental motivation for African Christians to naturally reduce deforestation just from a religious awe of God.<sup>99</sup> In other words, I presume that a new group, the 'Culture-Converted Christians' who, using Kwame Bediako's words, allow 'Scripture as hermeneutic' for ecological issues are likely to approach ecology with Christian theocentric worldviews, eco-ethics and praxis. They are more likely to appreciate and respect not only the positive aspects of primal religious taboos when 'refracted through the prism of the Gospel,' but also to attribute them ultimately to the Sovereign God of creation. Admittedly, it will, however, not be an easy project as reasoned from most of the responses, because with ecological issues the Christian God is not as fearful as local deities.<sup>100</sup>

<sup>92</sup> Sindima, 'Community of Life' pp.137-147.

<sup>93</sup> Emmanuel Adow Obeng, 'Healing the Groaning Creation in Africa,' in Mary N. Getui and Emmanuel Obeng, eds., *Theology of Reconstruction: Exploratory Essays* (Nairobi: Acton Publishers, 1999), p. 10.

<sup>94</sup> Bediako, 'Primal religion and Christian faith: Antagonists or soul-mates?' p.14.

<sup>95</sup> Sorely Craig, 'Christ, Creation, Stewardship and Missions: How discipleship into a biblical worldview on environmental stewardship can transform people and their land', *International Bulletin of Missionary Research*, Vol. 35, No. 3 (July, 2011). p.137.

<sup>96</sup> Sindima, 'Community of Life' pp.137-147.

<sup>97</sup> L. T. Houghton, *Global Warming: The complete Briefing*, (Cambridge; Cambridge University Press, 2004), cited by Osafo, p. 64.

<sup>98</sup> Ernestina Afriyie, A personal comment, based on field experience as research fellow, cited in Blasus, 'Compensated Reduction', p. 24.

<sup>99</sup> Blasus, 'Compensated Reduction', p. 24.

<sup>100</sup> Martin Doade, interview at Sokpoe, 3 February 2016; Edward Kattah, interview at Sokpoe, 11 March 2016; and Stella Xomeku, interview at Sokpoe, 29 February 2016.

Like the Christians, it is difficult to determine any distinctively Islamic motivation for and praxis of eco-ethics from responses of the Muslims. The seemingly lack of practical Islamic ecological values, ethics and norms may be due partly to the observation that though the Sokpoe-Moslem's life and living is highly determined by the teachings of Qur'an, yet they, like 'the majority of Muslims in the Islamic world', are unaware of the 'powerful and persuasive spiritual teachings of Islam about the natural world and the relations of human beings to it.'<sup>101</sup> Idrisu Ibrahim, son of the Zamarama *sarachi* of Sogakɔfe zongo, laments how that the imams do not teach 'these things; they have only one message instead of addressing pertinent issues in our lives.'<sup>102</sup> Idrisu was virtually echoing the same feelings of Seyyed Hossein Nasr, who, writing on 'Islam and the Environmental Crisis, decried that even the '*ulamā*' (traditional guardians of Islamic knowledge in its various dimensions) do not teach or preach the Islamic views on the environment.<sup>103</sup> And maybe the imams do not address environmental issues because generally the exceedingly rich contributions that Islamic law and ethics have to offer in addressing environmental concerns in the Islamic world as a whole remain largely unarticulated, (not promoted) and unrealised.<sup>104</sup> Chief Imam Mahmud Abu Bakr of Sogakɔfe zongo admitted that it is not everything that 'I know because of the level of my education'.<sup>105</sup>

Yet Islamic dogmatism seems a great challenge in their religious motivation (or rather de-motivation) for and praxis of ecological ethics. Anything not attributable to Qur'an, and for that matter, Allah, is devilish and an anathema for their religio-cultural self-understanding as Muslims in the Sokpoe ecological area. Alhaji Hama insisted that as long as an ecological regulation is imposed with a primal or Christian religious fervour the Muslim will simply not regard it.<sup>106</sup> Consequently, as it seems, their strong anti-primal-religious attitude made it hard for them to perceive any affinities between the primal ecological ethics and praxis and those possibly in Islam. In addition, perhaps the meaning of the word 'zongo' as a place for non-domiciled but 'awaiting and passer-by strangers'<sup>107</sup> has a significant psychological effect of not being motivated to be morally responsible for the land that they consider not theirs but for *dutɔwo* (indigenes). This 'Zongo mentality' may not make Muslims in zongo 'rooted'<sup>108</sup> enough in the ecological community in which they sojourn to exhibit *fitra* (natural impulse) in caring for creation.<sup>109</sup>

A hopeful deduction, however, is that, theoretically, all the Muslim participants in the study will obey eco-ethical rules and regulations if only they are void of non-Islamic religious tones - primal or Christian - in order not to compromise their Islamic faith. Once an ecological regulation can be proven to be sourced from the Qur'an there is high probability to comply. Similarly, if even not from Qur'an, and known emphatically not from primal religion, but shown to be of general sociological value and importance to the eco-community, the probability is still high that the Sokpoe-Moslem will comply with ecological regulations. Such regulations may only follow an Islamic ethical principle of 'universal and individual welfare'.<sup>110</sup> The chief Imam Mahmud Abu Bakar,<sup>111</sup> Zamarama *sarechi* Adem Ibrahim<sup>112</sup>

<sup>101</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis,' p. 85.

<sup>102</sup> Idrisu Ibrahim, interview at Sogakɔfe, 23 April 2016.

<sup>103</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis,' p. 87.

<sup>104</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 186.

<sup>105</sup> Imam Mahmud Abu Bakar, interview at Sogakɔfe, 5 April 2016.

<sup>106</sup> Alhaji Hama, interview at Dabala, 25 May 2016

<sup>107</sup> Abdullah Muhammad, (zongo sarechi), interview at Sogakɔfe, 5 April 2016.

<sup>108</sup> Bookless, *Planetwise*, p. 50.

<sup>109</sup> Chishti, '*Fitra: An Islamic Model for Humans and the Environment.*' p. 67.

<sup>110</sup> Llewellyn, 'The Basis for a Discipline of Islamic Environmental Law', p. 195.

<sup>111</sup> Imam Abu Bakar, interview at Sogakɔfe Zongo, 5 May 2016.

<sup>112</sup> Adamu Ibrahim, interview at Sogakɔfe, 5 April 2016.

and Madame Memuna Kudi<sup>113</sup> are of this opinion. In separate interviews, they realised in the end the possible and plausible ecological implications of the river and forest taboos, especially their valuable involvement in rain formation and hence agricultural importance. This was when in ascertaining the consistency of their ecological views I reminded them of previous answers to earlier questions. For instance, to the question: 'What will happen if a forest is not regulated as *dutɔwo* [the indigenous Eve] do, and everyone freely cuts trees from that forest?' Imam Mahmud Abu Bakr responded '*Aveε gbɔna tsɔtsrɔ̃ ge, eye tsidzadza nu atsi. Eɔ mɔawoe le tɔ kple ave ηuti hele wo zam na agbledede kple lã dɛdɛ. Medze be mɔawoe be woava tsrɔ̃ o.*' (The forest will die down and there will be no rains. Since we live near the forests and rivers and use them for farming and fishing, we must not destroy them). Then I reminded him: 'But you told me earlier that forest taboos have no good for Muslims, because they are unnecessary and evil prohibitions of *dutɔwo*'. He responded with a smile '*Azɔ meva kpɔ be numa wɔm wo le la eleme; Azɔ mese egɔme nusi ta wode se mawo dɔ.*' (Now I see that what they are doing is right; now I know why the forest taboos are put in place).

They then suggested that a way to get Sokpoe-Moslems appreciate ecological regulations, even if not from Qur'an, is to plainly explain their nature and good rather than enshroud them mystically as primal religious taboos. Perhaps a significant aspect of such an Islamic ecology curriculum needs to emphasise the sacralisation of creation as a religious view not limited to only primal religion. Seyyed Hossein Nasr suggests 'the solution to the [environmental] crisis requires the most urgent action, the turning to a sacralized vision of nature, as well as performing concrete actions on the earthly plane.'<sup>114</sup> Perhaps the story may also be different if they have a little more education on what the Qur'an says about creation and the Moslem's relationship with it, since only the Qur'an determines their ethics, attitudes and behaviours. Moreover, as Saadia Khawar Khan Chishti argues Muslims have '*fitra*' the natural instinct for creation care that need only be awakened by Islamic ecology from the *Shari'a*.<sup>115</sup>

It is noteworthy that the story of eco-praxis in Sokpoe does not end with only eco-ethics; there is also ritualistic priming for eco-care.

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<sup>113</sup> Memuna Kudi, interview at Sogakɔfe, 13 April 2016.

<sup>114</sup> Nasr, 'Islam, the Contemporary Islamic World, and the Environmental Crisis', p. 99.

<sup>115</sup> Chishti, '*Fitra: An Islamic Model for Humans and the Environment*', p. 67.

## CHAPTER 10

### RELIGIOUS BIRTHING RITES AS PRIMING FOR SUSTAINABLE ECOLOGICAL RELATIONS

#### 10.1 The Religious Birthing Rites of the Sokpoe-Eve

In addition to the religious ecological actions or moral practices of the Sokpoe-Eve toward creation care that I investigated and reported in the previous chapter, I observed also and was intrigued with their performance of birthing and funerary rites, which in my opinion have significant ecological implications. In particular is the potential of religious birthing rites to influence a sense of connection to the land and people, and thus prime babies (initiates) to develop morally sustainable ecological relationships with and in the 'gecosphere'. Therefore, I investigated the Primal, Christian and Islamic religious symbols for inducing creation care as enacted in the birthing rites, and how emotionally powerful they are in promoting particular ecological moral codes. To this end the respondents' practical knowledge, undergirding rational and hence ecological import of the birthing rites were interrogated.

The varied responses analysed suggest that attitudes toward the rites, procedural details and emphases on types and number of rituals involved in each rite differ slightly throughout the ecological area and with the various religious traditions. For instance, both the primal religionists and Christians consider birthing rites as *dekɔnu* (cultural), something characteristic of, and hence, uniquely identifiable with the eco-cultural community of the Sokpoe. As Church of Pentecost (COP) elder James Cudjoe strongly argues:

Performing a cultural rite has nothing to do with being *Kristotɔ* (a Christian) or *trɔʃubɔla* (worshipper of deities). Things that have been laid down by ancestors to identify us as the Sokpoe-Eve remain same to date and bind us all irrespective of religious persuasion.<sup>1</sup>

In other words, Cudjoe, like other Christian participants, suggests that 'Christian' birthing rites need to follow the same pattern of those for the primal religion; they are only enacted with different forms of liturgical symbols to convey the same meanings. Hence, the birthing rites of Christians are basically adaptations of the primal religious practices with actually no distinctive Christian outdoor rites observed in the study. Muslims, on the contrary, regard the rites performed in the primal and Christian traditions as devilish.<sup>2</sup> Yet they virtually do similar things with different symbolisms to suggest that the basic undergirding principles, beliefs, fears, and expectations are similar to a large extent in all the religious traditions.

Essentially the religious birthing rites are derived from their religious cosmologies (mental pictures of *xexeme* or 'gecosphere') and subsequent ecological cultures (practical daily relational experiences with and in the ecosystem). Knowledge of the ecological implications of these rites can contribute to our attitudinal change both in respecting their eco-significance and performing them with hope of impacting ritualistic priming for sustainable ecological relations.

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<sup>1</sup> James Cudjoe, interview at Sokpoe, 26 June 2016. (See Appendix 37 for transcript).

<sup>2</sup> Abdullah Muhammad, zongo sarechi, interview at Sogakɔfe, 5 April 2016.

Generally, the eco-oriented religious birthing rites identified are *fukatsotso* (pregnancy liberation), *amenɔdidi* (placenta burial), *videdede* (baby outdoor) and *vewɔwɔ* (winning accordance rite). However, in this chapter, I will present only the data on *videdede* (baby outdoor) to illustrate how the birthing rites may prime for harmonious eco-relations. Moreover, *videdede* seems to be both a summary and culmination of the ecological import - the enactments of priming for eco-relations - beginning from *fukatsotso* and *amenɔdidi*.

## 10.2 *Videdede* as Primal, Christian and Islamic Religious Priming for Creation Care

For analytic purposes I built a general and logical outline of the liturgy or procedure for primal religious outdoor rite from the various responses collated.

1. Mother and child remain in-doors from day one up to day seven postpartum, when the umbilical cord falls off.<sup>3</sup>
2. The fallen umbilical cord is buried by child's parents usually behind the local bath place and a tree seedling, such as coconut, nursed or planted on it, by its father.<sup>4</sup>
3. On average the ceremony begins very early morning on day 7 of birth, by 6.00 am or with the early rising rays of the sun.<sup>5</sup>
4. The officiant, necessarily an elderly man from the child's paternal family, opens programme with prayer.<sup>6</sup>
5. The elderly officiant brings out the child from the room, and in soliciting all best omen *in xexeme* (gecosphere) lifts it up towards the rising sun in the East saying 'welcome into light; ours is the East.' Then to the West, saying 'the sun sets here, the place for our enemies.'<sup>7</sup>
6. He turns the baby to the witnessing congregation and formally introduces it for all creation to see aright saying: 'We begat this child in peace. Now that the sun shines its bright rays on it all eyes can behold and know that a new person has joined us.' Then he curses whoever sees the child with evil eyes 'to go before it [the child] goes.'<sup>8</sup>
7. The child lays unclothed on bare ground and urinates onto the ground; or cool water in calabash is sprinkled from the rooftop down the eaves onto the child and it cries out for help.<sup>9</sup>
8. A female from the maternal family picks up and presents the crying child to its mother as a baby lost but found, comforted and wrapped up before being laid now on a reed mat on the ground.<sup>10</sup>

<sup>3</sup> Francis Hordo, interview at Sokpoe, 11 February 2016.

<sup>4</sup> Geoffrey Siame, interview at Sogakɔfe, 17 February 2016.

<sup>5</sup> Hordo, interview at Sokpoe, 11 February 2016.

<sup>6</sup> Yɔhokpɔ, interview at Sogakɔfe, 17 February 2016.

<sup>7</sup> Klayi Avi, interview at Sokpoe, 2 February 2016 and Gladys Ahado, interview at Sokpoe, 26 June 2016. She is a Christian but talking with primal worldview. Her church (COP) does not follow this procedure in outdoor, though. Contrarily, while Klayi Avi and Gladys Ahado consider East as rising light for life of the baby and West as setting sun of death for baby's enemy, Kɔwu Yɔhokpɔ and Avinyo Atiglo interpret East as rising rays of heat for the enemy and setting rays with coolness for the baby. Avinyo Atiglo, for instance gives alternative opening prayer of the Xevie clan as follows: 'To the evil one, to the evil one, to the evil one, ours is the cool evening, not just one but all evenings. Some people cannot stand seeing new babies, but mine shall be seen because anyone who sees with evil eyes shall go ahead of my child.'

<sup>8</sup> Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016 and Francis Hordo, interview at Sokpoe, 11 Feb 2016.

<sup>9</sup> Siame, interview at Sogakɔfe, 17 February 2016; Francis Hordo, interview at Sokpoe, 11 Feb 2016.



9. The officiant pours libation with gin (hard liquor) to the deities and ancestors and solicits their care and protection for the child. Evil forces are cursed so as to ward them off. The child is blessed by pronouncing all good required for success and admonished to live a good life.<sup>11</sup>
10. The officiant presents *dzatsi* (unroasted corn meal mixed with fresh water) to the ancestors in prayer saying 'you cared and sent this child to join the family, continue to care for and bless it and the entire family.'<sup>12</sup>
11. He drops with a finger the remaining *dzatsi* in the calabash onto the tongue of the child, and besmears its toes also with it saying 'today, you also begin to take in *li* (literally, millet, but stands for grains) that we eat here. Work up the soil so it can yield *li* for you; avoid laziness so as not to bring disgrace to our family.'<sup>13</sup> At this juncture some clans will formally welcome the child saying: 'you came with one hand we receive you with two.'<sup>14</sup>
12. Sometimes saline solution and hard liquor are dropped on to the child's tongue, one after the other, with instructions to distinguish between the two liquids and avoid the burning one in life.<sup>15</sup>
13. The officiant then asks the baby's father for its name since everyone is called by a name and not 'heh'; and the name is provided by the father with *nyikɔtsɔha* (naming drink), 'because we inherit paternally.'<sup>16</sup>
14. He pronounces the name thrice and says 'so shall you be known and called henceforth here at *kodzogbe* (living world) and among your ancestors in *avlime* (living-dead world). Then he sips a little of the *nyikɔtsɔha* to end this ritual.'<sup>17</sup>

All those present are then given tots to do similarly; even non-alcoholics symbolically put an empty glass to their lips accordingly or pour out any little liquor in it on the ground as they repeat the child's name. This is explained to symbolically emboss the name in their memory.<sup>18</sup>

Upon analysis of the outline I perceive three inter-relating potentially practical ways by which the religious birthing rites impact harmonious eco-relational priming. They are what I term (1) 'gecospheric' acclimatisation and fortification, (2) grounding into land of birth, and (3) socio-cultural integration.

### 10.2.1 'Gecospheric' Orientation by Acclimatisation and Fortification as Eco-Priming

In the religious worldview of the Sokpoe, acclimatisation and fortification begins during pregnancy with *fukatsotso* (pregnancy liberation) and continues through the the first week post-partum. Particularly on the first day postpartum the process prevents the baby's possible development of an unwanted personal health condition called *dzigbedi* (broinhidrosis or repellent odour) with a ritualistic *vudzitsilele* (parturition bath). An elderly woman or the

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<sup>10</sup> Kɔwu Yɔhokpɔ, interview at Sogakɔfe, 17 February 2016 and Francis Hordo, interview at Sokpoe, 11 Feb 2016.

<sup>11</sup> Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>12</sup> Hordo, interview at Sokpoe, 11 Feb 2016.

<sup>13</sup> Yɔhokpɔ, interview at Sogakɔfe, 17 February 2016 and Efoe Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>14</sup> Martin Doade, interview at Sokpoe, 3 February 2016.

<sup>15</sup> James Cudjo, interview at Sokpoe, 26 June 2016 and Francis Hordo, interview at Sokpoe, 11 Feb 2016.

<sup>16</sup> Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>17</sup> Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>18</sup> Castro Abotsi, (Fodze), Interview at Sokpoe, 5 February 2016.

midwife first besmears the neonate with *blimumuwo* (unroasted corn meal).<sup>19</sup> Next she uses a soft sponge and three buckets of warm water and *amadzalē* (local soap made from oil palm, and ash from plantain peels) to bath the baby. The social ecological import of this ritualistic neonatal bath is that *dzigbedi* (broinhidrosis) condition may be a challenge for the child in mingling with people in the eco-community.<sup>20</sup>

From the day of birth both mother and child are kept in-doors for the next six days in a room called *dideɔme* (maternity room). It is to ensure the baby *trɔ de xexeme ŋu* (turns to the atmosphere i.e. acclimatises) gradually in preparation for the formal exposure to the vagaries of the weather and climatic phenomena in the earthly environment, on the seventh day.<sup>21</sup> It is essential then that the mother is kept close as much as possible to the baby for constant maternal body heat exchange while the child adjusts to the new environment.<sup>22</sup> Therefore, the mother and child are often kept in a special room or the mother's old room re-furnished to look cleaner and warmer. The mother may go out when necessary, but not very frequently within the first three days, and even after that she must not go far off nor delay in returning to her *dideɔme*. Moreover, in going out the primal religious mother must be without a top-covering, perhaps to let any vagaries of the weather she encounters outside remind her of the lonely baby's situation inside and be moved empathetically to hurry back to it.

All these arrangements may be to ensure the baby's accessing enough maternal body heat simulating the uterine environment as well as colostrum lactation for immunoglobulin fortification, according to midwife Evelyn Ama Blasu.<sup>23</sup> Consequently, a fresh mother dependson the support of relatives to care for her, particularly, in providing her with *didekple* (maternity meals) usually made of roasted corn flour, red palm oil and salted fish, to ensure her good health and lactating freshness.<sup>24</sup> In some cases where the belief in and fear of malevolent spirits' possible attack on the baby is so strong there is also spiritual fortification with *tidodo*, a procedure of inserting *ti* (black herbal powder) through incision on the child's body, before outdoorng.<sup>25</sup> In addition, among the Anlo-Ewe, for instance, a special *xɔnudzɔgoe* (spirit-exorcising object, often made of food stuffs packed into a small gourd), is hanged with tender oil-palm leaf on the door post of the *dideɔme*. It is believed that any evil forces and homophagus spirits such as *adzetwo* (witches and wizards) intending to eat the flesh of the child may be attracted to the food particles and spare the otherwise human victim.<sup>26</sup>

Gecospheric acclimatisation and fortification is observable in the birthing rites of both Christians and Muslims also. They also fortify the child against possible development of the unwanted health condition of *dzigbedi* (broinhidrosis or repellent odour) with *vudzitsilele*

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<sup>19</sup> Matthew Agbatɔ, (DHCC), interview at Sokpoe-Vogɔme, 24 February 2016.

<sup>20</sup> Matthew Agbatɔ, (DHCC), interview at Sokpoe-Vogɔme, 24 February 2016; John Bosoka, (CEM), interview at Sokpoe-Vogɔme, 24 February 2016.

<sup>21</sup> Winner Eworyi, interview at Sokpoe, 3 February 2016

<sup>22</sup> W. Eworyi, interview at Sokpoe, 3 February 2016

<sup>23</sup> Evelyn Blasu, personal communication, 27 August 2016. Speaking from over thirty years experience as senior midwife Madame Blasu observes that few minutes after birth the midwife places the baby skin-to-skin on the mother's chest for maternal heat exchange and filial bonding. The filial bonding is believed to work as symbiosis via baby suckle-stimulation that secretes *oxytocin* from maternal posterior pituitary for milk let down and evacuation of uterine *congesture*. Umbilical cord is clumped and severed about three minutes after birth; and about 22 minutes thereafter (that is within 25 minutes after cord severance) a healthy baby begins to suckle fingers and anything close to its mouth. Mothers are seriously encouraged to give breast milk from this time on, particularly within the first 24 hours and up to 72 hours post partum. This ensures baby's access to colostrum for immunoglobulin fortification or natural immunisation before the colostrum ceases to flow.

<sup>24</sup> As members of the family or relations offer free helping hands to the fresh mother, social caring and friendly relationship in the family and eco-community is promoted and sustained. This is a socio-ecological effect.

<sup>25</sup> Rev. P. H. Aveteh, Interview at ACI, Akropong-Akuapem, 22 May 2015.

<sup>26</sup> Aveteh, Interview at ACI, Akropong-Akuapem, 22 May 2015.

(parturition bath) in their own ways. The testimonies of Matthew Agbattor,<sup>27</sup> and Hajia Amina Awudu<sup>28</sup> for Christians and Muslims, respectively, refer in this case, with the same socio-ecological implications. According to Pastor Matthew Agbattor, Christians use the same materials in the *vudzitsilele* (neonatal bath) as do the primal people.<sup>29</sup> Then also are similar indoor acclimatisation and fortification implications of keeping indoor for eight days in the case of Christians, but for Muslims either eight (Tijaniyya) or seven (Sunni) days postpartum.<sup>30</sup> As in the primal religious understanding the baby is believed to gradually adapt its irritability to exo-uterine environment, changing from internal maternal warmth to external atmospheric weather vagaries. It is noteworthy that Christians and Muslims are careful to consciously direct the baby to God/Allah for its ultimate spiritual fortification, using other symbols than the traditionalists' *xɔnudzɔgoe*. Though in this study only the Apostolic Revelation Society reported offering prayers 'for safe delivery and continuous safety of mother and child'<sup>31</sup> I personally know it is a common Christian practice in the eco-area from birth to outdooring. For the Muslims, pointing God to the child textually on the day of birth may perhaps be a seeking of ultimate reliance on God for protection from start to finish. Zongo sarechi Abdullah Muhammad narrates that on the second day postpartum, '*malam ava xlē Mawunya kpuikpui alo kartu aqewo de dusi kple mia tome na qevi la*' ('malam' comes to recite some Qur'anic texts, 'kartu', into the right and left ears of the baby) as instructed by the Prophet Mohammed.<sup>32</sup> John Azumah identifies the actual word 'whispered into the ears of a newborn and into the ears of a dying Muslim' is the Kalima: '*la ila ha illa Allah: Muhammad Rasul Allah*' (There is no God but Allah, Muhammad is the Messenger of Allah), which actually is the *shahadah* (confession of faith).<sup>33</sup> Azumah explains that 'of all the pillars of faith' in Islam, 'this alone is absolutely essential...It should be the first thing one hears upon entering the world and the last thing one hears before leaving the world to meet one's creator.'<sup>34</sup>

Thus, due to the vulnerability of the freshly born baby to the vagaries of biophysical energies and malevolent forces in the ecosystem the baby is kept in *didexome* for six or seven days acclimatisation and fortification. It affords and ensures that the baby continues the process, started prenatally with *fukatsotso*, to get orientated to the realities of 'gecospheric' biophysical energies and spiritual forces as well as preparedness to mitigating their vagaries, gradually. This sets the tone for and thus anticipates the other two movements: further grounding or rooting the baby in its land of birth and socio-cultural integration into the ecological community.

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<sup>27</sup> Matthew Agbato, (DHCC), interview at Sokpoe-Vogome, 24 Feb 2016; John Bosoka, (CEM), interview at Sokpoe-Vogome, 24 Feb 2016.

<sup>28</sup> Hajia Amina Awudu, interview at Dabala, 25 May 2016. See appendix 30 for transcript.

<sup>29</sup> Matthew Agbato, (DHCC), interview at Sokpoe-Vogome, 24 Feb 2016; John Bosoka, (CEM), interview at Sokpoe-Vogome, 24 Feb 2016.

<sup>30</sup> Abdullah Muhammad, zongo sarechi, interview at Sogakofe, 5 April 2016. He explains that the Tijaniyya start counting the week from the day of birth, but the Sunni start a day after; but both end up naming the child on its first day of birth in the first week postpartum.

<sup>31</sup> Maxwell Agbewovi (ARS), interview at Sokpoe, 26 February 2016; John Bosoka, (CEM), interview at Sokpoe--Vogome, 24 Feb. 2016.

<sup>32</sup> Abdullah Muhammad, zongo sarechi, interview at Sogakofe, 5 April 2016.

<sup>33</sup> Azumah, *My Neighbour's faith: Islam Explained for Christians*, p. 34.

<sup>34</sup> Azumah, *My Neighbour's faith: Islam Explained for Christians*, p. 34.

## 10.2.2 Religious Grounding or Rooting in Land of Birth as Eco-Priming

Practically primal religious outdoorings as an initiation rite involves two distinct but inseparable liturgical orders: *vitsɔtsɔfiawo* (showing baby to the sun) followed by *nyikɔtsɔtsɔ* (naming). The first part, *vitsɔtsɔfiawo* seems to formally introduce the baby mainly to the nonhuman (physical and spiritual) elements in the 'gecosphere', and enroots it in the particular geographical part of the Earth that it can regard as its land of birth. It is thus as if a completion on day seven of the ecological grounding process started on day one with *hɔka kpleamenɔdidi* (umbilical cord and placenta burying). For all the religious traditions the fall of the short piece of umbilical cord (left on the baby after severance of the placenta on parturition day) determines the day for the outdoorings rite. Usually this happens on day seven, which then as the day for the ritual, must not coincide with the day of birth, in the case of primal religionists. This is unlike the Anlo-Eve, particularly the Nigokpo ecological community, where the rite is on day eight or day sixteen, as it must necessarily fall on the day of birth.<sup>35</sup> Similarly, as we noted earlier Christians and Muslims in Sokpoe eco-area, like the Anlo-Eve, tend to outdoor on eighth day.<sup>36</sup> The fallen umbilical cord is buried just like the placenta, sometimes in the same hole or another behind the bath place to begin *vitsɔtsɔfiawo*.

Unlike the placenta, the short umbilical cord burial more often than not tends to be by parents themselves and not relatives. Usually it is the father, who plants a seedling such as coconut, oil palm or any food tree on it. According to Rev. P. H. Avetteh while the seedling is being planted the names of both the tree and the child are pronounced to link them up so that the baby will grow to love caring for the tree and benefit from its produce. As he puts it, talking with the background of sea-beach ecosystem, 'from the one coconut tree planted on the umbilical cord the child may get a large coconut plantation if it cares for it well.'<sup>37</sup> In an interview Mrs. Rebecca Ahoto from Dzodze did not know why her father planted a coconut tree on her umbilical cord, nor was she urged to and so did not personally care for it. Yet she knew the tree was for her and she benefits nutritionally and money-wise from the fruits borne by the tree up to date. Moreover, it connects her to her hometown as she visits the tree and, therefore, hometown when in need of the fruits or when responding to any other duty back home.<sup>38</sup>

It may not be an over statement to say that burial of umbilical cord on the outdoorings day grounds or connects a baby to and 'reminds it of its land of birth'<sup>39</sup> as potentiating for creation care. Yet it is not a common practice among Christians and Muslims in the eco-area; at least it is not done often or as consciously as in the case of the primal religion. But the grounding, rooting and connection as potentiating for creation care is further observable from the other symbols and rituals such as 'showing the baby to the sun' and 'laying it bare on the ground.'

As earlier stated, among the Sokpoe-Eve the primal religious rite of outdoorings a baby is sometimes simply described as *vitsɔtsɔ fia wɔ* (showing baby to the sun). An elderly man officiating opens the programme with prayer saying: 'Agoo, agoo, agoo; the sun rises from the East, runs up on top of us and sets to the West. Let everything around us remain quiet and calm as we perform this rite to outdoor our child, the human baby born for us.'<sup>40</sup>

<sup>35</sup> Rev. P. H. Avetteh, Interview at ACI, Akropong-Akuapem, 22 May 2015.

<sup>36</sup> For ARS only boys are outdoored on the eighth; but for girls outdoorings is on the sixteenth day. See Maxwell Agbewɔvi, interview at Sokpoe, 26 February 2016.

<sup>37</sup> Rev. P. H. Avetteh, Interview at ACI, Akropong-Akuapem, 22 May 2015.

<sup>38</sup> Mrs. Rebecca Ahoto, interview at Sokpoe, 18 June 2016.

<sup>39</sup> Dickson Degbe Blasu, interview at Sokpoe, 3 February 2016.

<sup>40</sup> Yohokpo, interview at Sogakɔfe, 17 February 2016. Instead of saying 'agoo, agoo, agoo' the officiant may gently hit his heel against the entrance wall thrice as asking permission from the *mawu* (god) who cared and brought the child into being. (Hordo Francis, interview at Sokpoe, 11 February 2016).

Cosmologically the Sokpoe-Eve represents or symbolises *xexeme* (the 'gecosphere') with the sun. James Cudjo of COP avers 'when day breaks we get out into *xexeme*'.<sup>41</sup> He implies that unlike an enclosed dark space an open bright space gives one the sensation of being in *xexeme*. As noted in Chapter 8, for the Sokpoe-Eve *xexeme* translates the spatially open vast arena where we experience alternation of day/sun light and night/darkness<sup>42</sup> lying between *dzifo* (the sky) where we can see and point to above us and *anyigbadzi* (earth surface) where humans live and put their feet.<sup>43</sup> To show the baby to the sun is then to formally present and integrate it into and as part of *xexeme*, which is seen also as 'the Earth and all that is in it'<sup>44</sup> including all phenomena pertaining to life on Earth. The rising and setting of the sun, for instance, signifies cycling of time and affirms life and death as a characteristic earthly phenomenon. While the light of solar rays from the East in the morning guarantees general safety for life in the 'gecosphere', its setting in the West in the evening reminds us of death or termination of earthly life.<sup>45</sup> This explains performing the outdoor rite usually early morning when the sun rises from the East to wish and immerse the baby into good life in the world it has entered. The West, on the other hand, is undesired for the baby, but rather for its enemies for whom death is wished.<sup>46</sup>

Thus the ritual of turning the child to the East and then to the West potentiates it for the sense of time or temporality as a significant phenomenon in the ecosystem. In other words, the child's consciousness of temporality, and hence the need to respect time, is necessary for survival and success in the ecological community. Time-consciousness affects the baby's survival decisions and actions such as discerning the right seasons/periods to farm and fish in the ecosystem for sustainable yields. So the baby is ritually admonished during the programme to work hard with the seasons so that the Earth (land and river) can yield the baby's required basics of life: food, clothing and shelter.<sup>47</sup>

Apparently the Earth's nurturing with good yield in rewarding the child's hard work depends on the ecological link - filial and moral (respectful) relationship - between baby and the Earth. This is ritually enacted by laying the baby, without body covering, on the bare ground with expectation that it urinates. Some informants indicate that where the baby fails to urinate, cold fresh water is either sprinkled between its thighs<sup>48</sup> or thrown from calabash unto thatched roof top to drip down at the eaves onto the baby.<sup>49</sup> The latter practice however, appears not known to a few respondents.<sup>50</sup> For the majority such as Dickson Blasu who reported its practice it may be done irrespective of whether the baby urinates on the ground or not.<sup>51</sup> The ecological significance of laying an uncovered baby on the ground, the baby urinating on the ground and/or making water drip from roof eaves onto baby on the ground have been explained by respondents. All the explanations point to grounding or rooting the baby in its land of birth as potentiating for respecting and caring for creation.

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<sup>41</sup> Cudjo, interview at Sokpoe, 26 June 2016. He is a Christian but like many others responded to the questions mainly with his primal worldview.

<sup>42</sup> Atiglo, interview at Elavanyo, 15 February 2016.

<sup>43</sup> Enyi Avenorgbo, interview at Elavanyo, 2 February 2016.

<sup>44</sup> Efoe Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>45</sup> Yohokpo, interview at Sogakofe, 17 February 2016. He is a 95-year old Christian of the Roman Catholic Church, but responded to questions with primal worldview.

<sup>46</sup> Klayi Avi, interview at Sokpoe, 2 February 2016.

<sup>47</sup> Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>48</sup> Abotsi, interview at Sokpoe, 5 February 2016 and Geoffrey Siame, interview at Sogakofe, 17 February 2016.

<sup>49</sup> Dickson Degbe Blasu, interview at Sokpoe, 3 February 2016.

<sup>50</sup> Avenorgbo, interview at Sokpoe-Elavanyo, 2 February 2016 and Efoe Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>51</sup> Dickson Degbe Blasu, interview at Sokpoe, 3 February 2016.

For instance, the laying of baby to have direct or bare contact with the Earth is to remind it of having been materially made of and so shall return its materiality to the Earth.<sup>52</sup> In addition, it compares rationally with the skin-to-skin laying of newly born baby on its mother's chest 'for maternal heat exchange and filial bonding'.<sup>53</sup> This practice is observed among other ethnic groups as noted by Robert Clobus.<sup>54</sup> Asare Opoku suggests that perhaps it signifies that the child is made essentially of clay from the Earth and so is 'expected to revere and cooperate with it'.<sup>55</sup> Similarly, the micturition symbol also reminds the child that out of the soil it came and its material substance, represented by the urine, like the placenta and umbilical cord, will return to the soil.

All these rituals, in my view, suggest and are emphatic about inducing the baby's filial respect for the Earth with which it must relate anthropomorphically as a kind of 'mother'. It is commonly the case among the Eve that on a mother's lap her child urinates innocently, yet the mother does not reject nor destroy the innocent child for soiling her lap.<sup>56</sup> Rather the baby's innocent soiling strengthens the filial bond between mother and child by stirring up the maternal care instincts of the mother. Hence, the baby's urination on the bare ground may signify its symbolic invoking of the maternal love and care of 'mother' Earth. Amega Kɔwu Yɔhokpɔ explains that

Urinating on the ground shows the child is *kɔkɔe* (pure) for the land that welcomes it unto her lap as a mother'.<sup>57</sup>

Asked what he means by 'kɔkɔe' and what happens if the baby does not urinate, he clarified that when a baby hesitates to urinate the Earth regards it as *eƒe dzimemekɔ o* (it is not pure in heart. i.e. not innocent). Rationally it may imply that spontaneous micturition establishes the baby's innocence, having no awareness of good or evil before entering *xexeme*, and so can ritually stir the maternal instinct of and acceptance by 'mother' Earth. Perhaps this suggests the primal religious way of explaining that human beings are primordially innocent just as in Judaeo-Christian religion the nakedness of Adam and Eve before God indicated their innocence, 'they had nothing to hide from each other or God'.<sup>58</sup> Hesitation and failure to urinate may suggest the child is not innocent enough and for whatever reason is reluctant to soil its 'mother' (the Earth's) lap contrary to her loving expectation for acceptance. For an unaccepted child may be denied access to 'mother' Earth's nurturing roles and hence uncertainty of the baby's survival in *xexeme*. Consequently, where this is strongly believed, Castro Abotsi and Geoffrey Siame observe that the officiating elder may sprinkle water in the laps to symbolically represent the urine for a baby that fails to urinate naturally.<sup>59</sup> Mother Earth is by this ritual informed, so to speak, to accept and caringly provide basic needs of life for the vulnerable and innocent baby.

The cosmological enactment here establishes the worthiness or inviolability of human identity with the Earth due to the Earth's nurturing values and function in relation to human life. Logically the baby is in turn set to respect and care for the Earth as its ecological 'mother' so it can continue to nourish it. Native Americans hold a similar perception, who when encountering environmental threats in their holistically perceived ecosystems, look into

<sup>52</sup> Siame, interview at Sogakɔƒe, 17 February 2016.

<sup>53</sup> Evelyn Blasu, personal communication, 27 August 2016.

<sup>54</sup> Clobus, 'Ecofarming and land ownership in Ghana', p. 70.

<sup>55</sup> Opoku, 'Cooking on Two Stones of the Hearth?', pp. 3-9 (5)

<sup>56</sup> An Eve proverb endorses this understanding when it says 'A mother does not cut off with knife the soil of her baby on her lap.'

<sup>57</sup> Yɔhokpɔ, interview at Sogakɔƒe, 17 February 2016. See appendix 28 for transcript.

<sup>58</sup> Bookless, *Planetwise*, (Nottingham: Intervarsity Press, 2008), p. 36.

<sup>59</sup> Abotsi, interview at Sokpoe, 5 February 2016 and Geoffrey Siame, interview at Sogakɔƒe, 17 February 2016.

themselves and ask 'Are we nourishing our Mother Earth as she has nourished us, so that she will continue to nourish future generations?'<sup>60</sup>

Apart from substituting for urine where a baby fails micturition, the dripping of water from roof eaves unto the baby as explained by interviewees implies a further orienting the baby to the reality of weather vagaries. I explained above that the ritual of 'showing baby to the sun' informing the baby about heat, light and darkness. The 'dripping water' ritual, on the other hand, focuses on the weather elements of cold temperature and rainfall in the ecosystem. Explaining what these rituals signify, Doade Martin's response suggests that both the 'dripping water' ritual and that of 'showing baby to the sun' together are meant to teach the baby the weather and climatic elements as well as seasonality and temporality in the 'gecosphere'. He observes, speaking from a primal religious perspective, that

Bringing out the child from the room they show it to the East and West. It implies teaching the child to take note of time and timeliness for life activities in the world. In addition, it is to make the child appreciate the seasons for heat and cold in the world. Then they pour water on rooftop to drip unto the child. This also reminds the child about rainy season and reality of being beaten by rain on Earth.<sup>61</sup>

It stands to reason that the primal religious outdoorings orientates and integrates (or grounds) the baby by awaking its consciousness of the geobiophysical phenomena in the 'gecosphere' and the temporality of ecosystemic life. But it also fortifies the baby spiritually because the ecosystemic life is not only temporal; it is also precarious due to the presence of malevolent forces that threaten its sustenance. The child should be made aware not only of their presence and endangering manoeuvres, but more importantly how to relate with them for the integrity, success and sustenance of life.

To help the innocent and vulnerable child secure its life in the precarious world the fortification started earlier from conception through the first six days postpartum is brought to climax during outdoorings. Special libation prayers are offered that ward off the evil spirits before blessings are pronounced on the baby just as happens among the Ga primal religious system. Citing the case of Ga culture to emphasise belief in the power of cursing, B. Y. Quarshie, sees African outdoorings rites as occasion not only to invoke material blessings to the baby, but also to deal with malevolent forces that may overturn the blessings by cursing them.<sup>62</sup>

Evidentially '*vi tsɔtsɔ fia ye*' (showing the child to the sun), as the first stage of *viɔdeɔdeɔgo*, is often either overlooked or not very elaborately performed by Christians. And Muslims do not do it at all. In an explanation Catechist Robert Avenɔgbo remarks:

Parents tell the pastor to come and show their child to the sun, which in their mind is in accordance with *dekonunu* (primal religious rite). But we church agents take it that they only want the child named just as it was biblically done to Jesus.<sup>63</sup>

He shows that contrary to Christian parents' understanding, church elders who officiate outdoorings ceremonies think that 'showing baby to the sun' is *dekonu*, something non-Christian, and so 'ignore this part and concentrate on only naming.'<sup>64</sup> This is because the Bible records only christening in the outdoorings ceremony of baby Jesus, and this was in the Temple. In the same vein, church elders also prefer the chapel more than the home as the

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<sup>60</sup> Gonzales and Nelson, 'Contemporary Native American Responses to Environmental Threat,' p. 497.

<sup>61</sup> Martin Doade, interview at Sokpoe, 3 February 2016. See appendix A29 for transcript.

<sup>62</sup> Quarshie, 'Paul and the Primal Substructure of Christianity' pp. 8-14 (12).

<sup>63</sup> Robert Avenɔgbo, interview at Sokpoe, 13 March 2016. ( Appendix A 34 for transcripts)

<sup>64</sup> Robert Avenɔgbo, interview at Sokpoe, 13 March 2016.

venue for the outdoor ceremony.<sup>65</sup> Perhaps the interpretation given by the church elders seriously influenced some of the church members to think similarly that showing baby to the sun is 'unchristian'. Atsufo Xomeku, a mother of twin girls, testifies that the outdoor ceremony of her children by catechist Avenogbo and Presbyter Andrews Ahado took place in the chapel instead of home. Performing the rite in chapel alone is enough to make it Christian for her; and glad that 'the ceremony was more of Christian naming than the unchristian *dekɔnuwɔwɔ* (primal religious rituals).<sup>66</sup> Although during the ceremony in question the girls were taken out and lifted briefly to the sun outside the chapel, she did not complain at that time only due to ignorance; with her level of Christian understanding today, she 'will not tolerate such unchristian *dekɔnu* during the ceremony.'<sup>67</sup>

These Christians in the Sokpoe ecological area may not be distinct. Prof. Joshua Kudadjie, a Christian ethicist of the Methodist Church of Ghana, conducted a similar research among the Ada, whose outdoor rites are similar to those of the Sokpoe-Eve in many respects. Perhaps bereft of ecotheological background or being more focused on ethics than theology, he downplayed and discarded some aspects of the ritual that he regarded unchristian from his reconstructed outdoor liturgy.<sup>68</sup> For instance, he construes the ritual of 'abandoning child and calling on a woman to pick it' as an 'act of [human] redemption', perhaps, to him, contrary to promoting Christ's divine redemption. He then 'expunged this act' on grounds that 'the child is a gift of God and its arrival thus calls for thanksgiving to God, not redemption.'<sup>69</sup> Similarly the Church of Pentecost (COP) leaders at Sokpoe ecological area delete the ritual of 'pouring and dripping water from roof eaves onto baby' because it is '*egodotwo to*' (for non-Christians).<sup>70</sup> Generally the ritualistic actions expunged by Christians from primal religious *videdede* liturgy include:

- Ritualistic burying of the piece of umbilical cord, which falls off on the seventh day postpartum. Not much attention is given to it. Yet it may be grounding or linking child with land of birth and death.
- Planting tree on buried umbilical cord. Not done at all. Yet it could be orienting or priming baby to be concerned for nonhuman creation care, particularly for floral care and agricultural income earning.
- Not ritually 'taking baby out' or lifting baby to sun and turning it toward the East for early sun rays signifying rising life; and turning it to the West to signify sun down or ending of life. Even where and when done it is without ecological undertone, at least, not consciously.<sup>71</sup> Yet this believably primes baby to be consciousness of time, temporality of earthly life, as well as weather (temperature) and season changes as realities in the ecosystem.
- Placing and abandoning the baby uncovered on bare ground; having it found and picked by a woman and dropping *dzatsi* (corn meal solution) on the tongue of the baby, with instruction to fend itself with produce of the land. No Christian does it. Yet this could prime the baby to see itself as earthling and so respect the nurturing function of the Earth as 'mother'. It also introduces baby to eco-value of hard work and appreciate locally or eco-culturally produced staple food. Implicit also is the sense of belonging to a loving family, having been found by a caring woman, and not

<sup>65</sup> Robert Avenogbo, interview at Sokpoe, 13 March 2016.

<sup>66</sup> Atsufo Xomeku, interview at Sokpoe, 29 Feb 2016,

<sup>67</sup> Atsufo Xomeku, interview at Sokpoe, 29 Feb 2016.

<sup>68</sup> Joshua Kudadjie, 'Researching morals and rituals', *Journal of African Christian Thought*, Vol. 2, No. 2, (December 1999), pp. 35-43.

<sup>69</sup> Kudadjie, 'Researching morals and rituals', pp. 35-43.

<sup>70</sup> James Cudjoe, Church of Pentecost, interview at Sokpoe, 26 June 2016.

<sup>71</sup> Only Church of Pentecost indicates they do this part. See Gladys Ahado, interview at Sokpoe, 26 June 2016.



lost in vast cosmos. However, this priming will only occur if someone explains this to the child when he/she is able to understand. Otherwise, the child won't know it has been done.

- Sprinkling cold water from roof eaves unto the baby on the bare ground, which may prime the baby for rainfall and cold weather conditions in the ecosystem. This is again not done by Christians.
- Dropping water, honey, or liquor in turns on the tongue of the baby with instruction to distinguish contrasts. This, however, is occasionally done by some Christians. It may, using alternative symbols, prime baby for moral training in contrasting good and bad, truth from lie, sweet and bitter and sin from holiness.
- Presenting *ηkɔtsɔha* (naming drink) to all those who hear the child's name for the first time. This believably is a kind of 'mnemonic' or a symbolic reminder for witnesses to remember the names, and is also proof of true paternal heritage for the child. He who presents *ηkɔtsɔha* is the recognised responsible father. This may ensure paternal responsibility.

Apparently, some other Christian parents are not satisfied with the 'Christian' version of *videqedeqo*, which is minus the aspects for 'showing the child to the sun'. They miss the 'dekɔnu feeling', the African cosmological and cultural meanings and purposes - that give the sense of completeness and effectiveness of the rite. Castro Abotsi is a Presbyterian. In an interview he observes from experience that usually for some parents, the rite in the chapel is 'topped-up' back home, because '*mede o*' (it is not complete).<sup>72</sup> Asked if this is true and why, Andrews Ahado, a presbyter who often assists or represents the minister in outdoorings ceremonies, replied in affirmation and said: 'We rebuked them several times yet some believe in it so much that they see it as a continuation of committing the child into God's hands.'<sup>73</sup>

Muslims in this study did not present any rituals to suggest *vitsɔtsɔfiawo* also takes place during their baby outdoorings ceremonies.

A noteworthy point in the case of the primal people is that in dealing with evil forces in the ecosystem the child needs the assistance of both benevolent deities and their human devotees who can manipulate the deities in favour of the child in accordance with socio-cultural understandings. This moves the outdoorings liturgy into the next stage for socio-cultural integration of the baby.

### 10.2.3 Socio-cultural Orientation and Integration as Ecological Priming

I see that this section of the liturgical practice in primal religious outdoorings ceremony, called *nyikɔtsɔtsɔ* (naming), moves the focus from nonhuman to fellow human beings, and to integrate the child in their social relationships and cultural ethos in the ecological community. From a social ecology viewpoint, the Sokpoe-Eve practise paternal heritage<sup>74</sup> and desirously respect old age. This may underscore the insistent on an elderly male to officiate the outdoorings rite. Kɔwu Yɔhokpɔ speaks of the officiant to necessarily be *ηutsu nutefewɔla* (a worthy or faithful man).<sup>75</sup> People believe that this impacts the child morally to respect old age as well as be inspired to adopt the good character and relationships that promote long life in the ecological community.<sup>76</sup> Citing an example from his hometown Nigokpɔ, Rev. P. H. Avetteh explains the reason primal religionists in the Aɲlɔ-Eve insist on only an aged and

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<sup>72</sup>Castro Abotsi, interview at Sokpoe, 5 February 2016.

<sup>73</sup> Andrews Ahado, interview at Sokpoe, 5 February 2016.

<sup>74</sup>Isaac Avi, interview at Sokpoe, 2 February 2016.

<sup>75</sup>Yɔhokpɔ, interview at Sogakɔfe, 17 February 2016.

<sup>76</sup>Klayi Avi, interview at Sokpoe, 2 February 2016.

well respected man to officiate outdoor ceremony. They believe and expect that the baby will take after the man in terms of age and character.<sup>77</sup> Ogbu Kalu believes that the cultivation and practice of a 'green' or an ecologically virtuous character is the best way for establishing harmonious ecological relationships, and hence, abundant life in the ecosystem.<sup>78</sup> A person's character or eco-character is formed as a human quality through inherited traits and influences of interactions with fellow humans in the social and cultural environment. Such socio-cultural interactions may provide primordial understanding of the environment and how it functions in the historical and traditional context, which according to Agbanu, the child needs to know first before science can later help to improve on it.<sup>79</sup>

Therefore the outdoor rite integrates the baby into the society as implied by the statement *wodee amehawo dome* (it is literally put into the people)<sup>80</sup> when the officiant ceremonially presents the baby by lifting it towards the witnessing participants at the ceremony saying 'let you who know not know this child from today.'<sup>81</sup> In other words, the child must be welcomed as a member of, and so ritualistically exciting its sense of belonging to an ecological community on the Earth. It becomes a citizen of Earth, and hence an earthling. But the Earth is part of an extra galactic universe; even by itself it is vast with many communities located geographically at different cardinal points. As a new entrant, the child is considered lost and vulnerable to ill fates in the vast, extra galactic and precarious universe. It needs to be identified, loved, and guided by and in a particular community or family, taking its place specifically as an earthling in *xexeme* (gecosphere).

These worldviews are enacted to impress them upon the infant during the outdoor rite by leaving the child alone on the ground to cry until a relative picks it up saying 'I found a lost child, whose innocent child is lost this way?' Then the mother, on behalf of society receives and lovingly comforts to quieten the child. It may signify parental caring quality that the child is to experience and learn to emulate in the bewildering community, particularly to estranged persons. Next the child is identified by naming it, the names having meanings and purposes based on the day of birth (day name), a significant event (insinuating name) and paternal heritage (surname).<sup>82</sup> However, more often only the day name and surname are pronounced at the ceremony; the other names come later as parents consider life events that may be memorabilia.<sup>83</sup> To legally establish and affirm the particular paternal family or line of heritage of the child only males officially release the name to the event officiant for publicising, with a *nyikɔtsɔha* (naming drink). Certainly among the Eve in general it is traditionally accepted that only males do name children; and the legal evidence of paternity is the answer to the question 'who submitted *nyikɔtsɔha* during outdoor?'<sup>84</sup> The naming ritual is followed with introduction to *tɔgbɛɲɔlɪwo* (ancestors).

The Sokpoe-Eve, like many other African primal cultures, hold a holistic view of the world, where community consists of visible and invisible, human and nonhuman members in diverse but clearly known and ethically valued structural relationships.<sup>85</sup> An important group of invisible community members are the *tɔgbɛɲɔlɪwo* kple *mamaɲɔlɪwo* (male and female ancestors) in *avlime* (world of the living-dead) from whom the child is believed to have come and who also must bless its life at *kodzogbe* (the world of the living-living). The child is introduced to them with hope that he/shewill respect them who sent and shall watch over

<sup>77</sup> Aveteh, interview at ACI, Akropong-Akuapem, 22 May 2015.

<sup>78</sup> Kalu, 'Precarious Vision' p. 44.

<sup>79</sup> Agbanu, interview in his office at Legon, Monday 23<sup>rd</sup> November, 2015.

<sup>80</sup> Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>81</sup> Klayi Avi, interview at Sokpoe, 2 February 2016.

<sup>82</sup> Klayi Avi, interview at Sokpoe, 2 February 2016.

<sup>83</sup> Avete, interview at ACI, Akropong-Akuapem, 22 May 2015.

<sup>84</sup> Avete, interview at ACI, Akropong-Akuapem, 22 May 2015.

<sup>85</sup> Kalu, 'Precarious Vision' p. 42.

him/her. So the ancestors are invoked to dine with the child. For it is said among the Eve that only a child who washes his/her hands well, that is respects, eats with elders. The communal food is *fomedzatsi* (family meal made of a solution of fresh corn flour in fresh water), representing the culturally most staple food (grain and water) in the typical riverine ecosystem of Sokpoe. The ancestors eat theirs from the ground but that of the child is dropped onto its tongue. The officiant makes it clear to the ancestors that 'You sent this child to us. Here receive our family *dzatsi* and bless your child so it can fend for itself with its own produce from the river and soil.'<sup>86</sup> Similarly, the child is also admonished to work hard to earn good living from the river and land, and not to disgrace the family with laziness.<sup>87</sup>

With this communal dining ritual the child is culturally potentiated for moral values of respecting human elders and the deities who bless it, caring for the river and land that yields his/her food, grateful for and satiated with the staple locally produced food stuffs and also see hard work as real necessity for sustaining good life in the ecological community. The teaching on moral responsibility in the eco-community seems to be completed with the ritual of dropping saline solution and alcohol on the child's tongue. They are to symbolically help the child to appreciate the reality of contrasts in the ecosystem. The child is instructed to distinguish between water and alcohol, good and bad, right and wrong, truth and lie even where the situation seems very much alike, but must keep to the good.<sup>88</sup> The moral impartation ritual is concluded with prayer for the child to develop good character as it grows up.<sup>89</sup> Thus it appears the entire birthing rituals from conception to outdoorings unconsciously point to and prime the child to ultimately develop and practice eco-character or virtue toward creation care. Curry describes a child with eco-character, from his western understanding, as a 'green citizen of the Earth Community', the kind reported of primal cultures not entirely colonised by modernity.<sup>90</sup>

As noted earlier, *nyikɔtsɔtsɔ* (naming ceremony), the second stage of the outdoorings rite, is the part that both Christians and Muslims tend to emphasise. Despite some denominational differences I collated a logical generalised liturgical order for the outdoorings ceremony from responses of the Christian participants in this study.<sup>91</sup>

- a. Both baby and mother remain indoors for seven days postpartum. This prevents *dɪdɛlɛlɛ* (peri-natal fever or jaundice).<sup>92</sup>
- b. On the eighth day,<sup>93</sup> day of birth, the family members, well-wishers, officiating minister and catechist/elder gather at 6.00 am for the outdoorings ceremony. It may be at home or in the chapel.<sup>94</sup> If the programme is at home the child's father or mother<sup>95</sup> or paternal aunt<sup>96</sup> or minister<sup>97</sup> brings the child out from the *dɪdɛxɔmɛ* (maternity room) and keep the child in her arms as the programme proceeds. In the chapel either

<sup>86</sup> Klayi Avi, interview at Sokpoe, 2 February 2016.

<sup>87</sup> Yohokpɔ, Interview at Sogakɔfe, 17 February 2016.

<sup>88</sup> Avettye, Interview at ACI, Akropong-Akuapem, 22 May 2015.

<sup>89</sup> Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>90</sup> Curry, *Ecological Ethics*, pp 49, 159).

<sup>91</sup> Actually the liturgy for Church of Pentecost is far shorter, mainly concerned with praying in the room, bringing out the baby, lifting up child to the sun, exhortative homily, naming, gifting and blessing of child. See James Cudjoe, interview at Sokpoe, 26 June 2016.

<sup>92</sup> Evelyn Blasu, interview at Abetifi, 16 January 2016.

<sup>93</sup> For ARS only boys are outdoored on the eighth; but for girls outdoorings is on the sixteenth day. See Maxwell Agbewɔvi, interview at Sokpoe, 26 February 2016.

<sup>94</sup> Francis Hordo, interview at Sokpoe, 11 February 2016.

<sup>95</sup> Andrews Ahado, interview at Sokpoe, 5 February 2016.

<sup>96</sup> Maxwell Adikpe, interview at Mepe, 2 June 2016.

<sup>97</sup> For Church of Pentecost a female church elder takes the child from mother and give to the minister in the room. See James Cudjoe, interview at Sokpoe, 26 June 2016

- the parents step forward with the child in their hands,<sup>98</sup> or a female presbyter receives the child from the parents and carries it.<sup>99</sup>
- c. Either the father of the child<sup>100</sup> or the officiating minister<sup>101</sup> announces the purpose of the gathering saying 'unto us a child is born, and we gather *'be woatsɔe afia wò'* (to show it to the sun).<sup>102</sup>
  - d. The ceremony begins with a hymn and the minister prays thanking God for the safe delivery and asking God to grant success all through the ceremony.<sup>103</sup> For both COP<sup>104</sup> and DHCCC,<sup>105</sup> the opening prayer is offered in the *diɖɛxɔme* before the minister carries the child out to signify 'outdooring'.<sup>106</sup> Similarly in CEM an elder carries the baby out of the chapel as 'outdooring,' where the minister lifts it up to the sun, pronouncing its name given by the father, thrice. He prayerfully seeks the baby's protection by cursing and casting off endangering evil spirits, and blessing the child to prosper in life before returning to chapel.<sup>107</sup>
  - e. The minister then gives a short scriptural homily exhorting both the new and other parents concerning nurturing children in the way of the Lord, reminding them of the roles of both parents and children.<sup>108</sup>
  - f. The minister receives the child in his/her arms<sup>109</sup> and requests for the child's name.<sup>110</sup> The father writes the set of names out just as Zechariah did when his son John the Baptist was born.<sup>111</sup> The meaning is briefly discussed for parents to know what the names imply and give their approval<sup>112</sup> before the minister prays on the names as social identifying symbols.<sup>113</sup> Usually the set of names include Biblical, day of birth and surnames in that order.<sup>114</sup>
  - g. Either the child's father<sup>115</sup> or the minister<sup>116</sup> pronounces the name three times<sup>117</sup> and the congregation repeats after him, thrice, in the name of the Trinity. After the third time the minister says to the child: 'I commit you into God's hands as his child, but not for Satan. You shall be known and called by this name among the saints on Earth.'<sup>118</sup>

<sup>98</sup> Winner Eworyi, interview at Sokpoe, 3 February 2016.

<sup>99</sup> Francis Hordo, interview at Sokpoe, 11 February 2016.

<sup>100</sup> Robert Avenɔgbo, interview at Sokpoe, 13 March 2016

<sup>101</sup> Winner Eworyi, interview at Sokpoe, 3 February 2016; Rev. M. K. Adikpe, interview at Mepe, 2 June 2016.

<sup>102</sup> Robert Avenɔgbo, interview at Sokpoe, 13 March 2016; Gladys Ahado, COP, interview at Sokpoe, 26 June 2016.

<sup>103</sup> Francis Hordo, interview at Sokpoe, 11 February 2016.

<sup>104</sup> James Cudjoe, interview at Sokpoe, 26 June 2016.

<sup>105</sup> Matthew Agbatɔ, interview at Sokpoe-Vogɔme, 24 February 2016.

<sup>106</sup> James Cudjoe, interview at Sokpoe, 26 June 2016.

<sup>107</sup> John Bosoka, interview at Sokpoe-Vogɔme, 24 February 2016.

<sup>108</sup> Francis Hordo, interview at Sokpoe, 11 February 2016.

<sup>109</sup> For COP it is the father who hands over the baby to the minister. See James Cudjoe, interview at Sokpoe, 26 June 2016.

<sup>110</sup> Winner Eworyi, interview at Sokpoe, 3 February 2016.

<sup>111</sup> Robert Avenɔgbo, interview at Sokpoe, 13 March 2016.

<sup>112</sup> Robert Avenɔgbo, interview at Sokpoe, 13 March 2016.

<sup>113</sup> Winner Eworyi, interview at Sokpoe, 3 February 2016.

<sup>114</sup> Francis Hordo, interview at Sokpoe, 11 February 2016.

<sup>115</sup> Robert Avenɔgbo, interview at Sokpoe, 13 March 2016.

<sup>116</sup> Winner Eworyi, interview at Sokpoe, 3 February 2016.

<sup>117</sup> For COP the minister pronounces the names only once. See James Cudjoe, interview at Sokpoe, 26 June 2016.

<sup>118</sup> Castro Abotsi, interview at Sokpoe, 5 February 2016. In CEM the minister gives the name earlier outside the chapel when he lifts up the baby to the sun saying 'I outdoor you in the name of the father, I outdoor you in the name of the Son I outdoor you in the name of the Spirit, Amen.'

- h. Like Simeon did for Jesus, the minister or a presbyter now receives the child into his/her arms and blesses it by pronouncing blessings.<sup>119</sup> Also prophetic words from Psalms 23 or 91 are pronounced by the minister, addressing the child by calling the new names at various stages, as God is petitioned for fulfilling his divine purposes and destiny for the child: long life, health, prosperity and God fearing spirit.<sup>120</sup>
- i. The minister or presbyter returns the baby to its father who then may give it to its mother to signify paternal inheritance, as Eve hymn 407 v. 5 is sung.<sup>121</sup> The Minister reminds the child of the lyrics of this hymn which affirms that wise parents are gifted the child; and hence, instructs it to obey parents and live longer and prosper.<sup>122</sup>
- j. The congregation sings hymns interspersed with optional exhortations from one or two church members. The exhortations re-emphasise the need for Christian nurturing of children so they could develop holistically in physic and spirit.<sup>123</sup>
- k. At the same time congregants as witnesses to the rite donate in Christian love for the upkeep of the child, items including money, powder, body cream, toilet soap etc.<sup>124</sup>
- l. The minister ends the rite with a closing prayer, blessing the child, parents and congregation to be useful instruments for the Lord, church, society and family.<sup>125</sup>
- m. Now if they can afford the parents provide some refreshment like hot beverage or soft drink in the midst of singing and merry-making.<sup>126</sup>

Ecologically, since this part of the outdooring is for socio-cultural orientation and integration the symbolic rituals signify naming, establishing paternal heritage, admonishing for Christian moral conduct, spiritual (prayer) and material (gifts) support for the newly introduced member of the community and welcoming the baby into the community joyously.

The practice is not very different from that of Muslims except that Muslims actually begin naming on the very day of birth. According to Hajia Amina Awudu,

On the day of birth women around sound yur...yur...yur thrice, as done when a bride is outdoored into a public space. With every 'yur' they whisper the birth-day name, such as Kòku, if born on Wednesday, into its ears. This is to enable babe internalise and ever recognise that name as belonging to it.<sup>127</sup>

Like the Christians the naming programme on day eight postpartum, sometimes called '*suna*' takes place either at home or in '*masalachi*' (mosque). Depending on the ability of parents the programme may end with or without *sadaqa* or freewill offering. If it is without *sadaqa*, the programme may start at dawn, during the 5.00 am *salat-az-Subbh* prayers; otherwise it starts formally at 9.00 am, as instructed by the Prophet Mohammed.<sup>128</sup> The entire programme, according to participants then may be summed up as follows:

1. More often than not the umbilical cord falls off on the seventh/eighth day and is buried in the same way as the placenta: it is wrapped in *Calotropis procera* ('wagashi' herbal) leaves, and sometimes covered with a piece of calico, put in *kutu* (a small clay

<sup>119</sup> Andrews Ahado, interview at Sokpoe, 5 February 2016.

<sup>120</sup> Robert Avenogbo, interview at Sokpoe, 13 March 2016.

<sup>121</sup> Eve Hymn 407 v. 5 says: 'Ena dzila kple nufiala anukwaretowom. Wofe nufiala tso gbowò, Wò, si nye keli gã.' (You gave me parents who are true teachers, Thier teachings come from You, Who is the Great Light).

<sup>122</sup> Robert Avenogbo, interview at Sokpoe, 13 March 2016.

<sup>123</sup> Winner Eworyi, interview at Sokpoe, 3 February 2016.

<sup>124</sup> Castro Abotsi, interview at Sokpoe, 5 February 2016.

<sup>125</sup> Winner Eworyi, interview at Sokpoe, 3 February 2016; Robert Avenogbo, interview at Sokpoe, 13 March 2016.

<sup>126</sup> Winner Eworyi, interview at Sokpoe, 3 February 2016.

<sup>127</sup> Hajia Amina Awudu, interview at Dabala, 25 May 2016. See appendix 30 for transcript.

<sup>128</sup> Abdullah Muhammad, zongo sarechi, interview at Sogakofe, 5 April 2016.

- pot) and buried one-and-half feet deep in the soil, 'depicting burial of a complete human, dead.'<sup>129</sup>
2. Family and well-wishers gather in the house for the outdoor programme at six o'clock in the morning. Some may have been there since the day of birth helping with various chores in preparation for the ceremony.<sup>130</sup>
  3. Father of child presents a 'naming ram', which is served as *sadaqa* either as fresh mutton or cooked meal.<sup>131</sup> Although this is not mandatory<sup>132</sup> yet by God's grace every father is able to afford at least one ram for the occasion.<sup>133</sup>
  4. Joyful welcome of babe, with feasting and social recreational interactions, continues until the imam or malam arrives into the house at about nine o'clock in the morning.<sup>134</sup> If for any reason, such as the father of child travelling, the naming ritual, that is, the official pronouncement of the names by the imam, would have taken place earlier in the mosque during dawn prayer time.<sup>135</sup>
  5. Imam or malam prays to bless the child, before the formal or ritualistic pronouncing its names, to be successful in life.
  6. The imam then officially or ritually pronounces the names (including the day-of-birth name, Islamic and surnames) given by the child's father. For a girl to be called 'Hawusatu', as example, he says '*Ariraya Hawusatu*' four times; and an old lady then responds with a '*gunda*' (yur.ra..yur.ra.yur..ra) after each pronouncement. For a boy the pronouncement and subsequent response is only thrice. This is because in life a woman receives a special bath four times: at birth, marriage, maternity and death. With the boy that of maternity is out. One of the names may be after a chosen elderly relative.<sup>136</sup>
  7. In his final blessings the imam admonishes the babe to emulate the good character of the person it is named after, often, its grandmother or grandfather.<sup>137</sup>
  8. Freewill offering (*sadaqa*) and refreshing the congregants continue for long time.<sup>138</sup> In their joy congregants also invoke goodwill and blessings on the child as they call its names saying: 'Welcome, having joined us do stay well and be of help to us and to yourself. We wish you happy living.'<sup>139</sup>

To summarise this chapter it is evidentially clear that the primal religious birthing rites of the Sokpoe-Eve are highly potent with implications of priming babies for harmonious ecological relations or creation care. When appropriately re-evaluated and reconstructed with the Gospel as hermeneutic these rites may provide vital and pragmatic knowledge for an African Christian Theology curriculum. Yet both the Christians and Muslims in the ecological area appear not taking advantage of this opportunity perhaps due to influence of their western-Christian and Islamic inherited missionary theologies, respectively. How a baby eventually knows or may come to know of and actualise the ecological implications of its religious birthing rites as it grows through physical life to its end in the ecosystem is beyond this research. However, it is significant to notice that even their funerary rites may also have ecological implications, but the analysis of these will be done separately from this thesis.

<sup>129</sup> Hajia Fatti Sanni, personal telephone communication, 12 December 2016.

<sup>130</sup> Hajia Amina Awudu, interview at Dabala, 25 May 2016.

<sup>131</sup> Abdullah Muhammad, zongo sarechi, interview at Sogakofe, 5 April 2016.

<sup>132</sup> Hajia Hawusatu Eleas, interview at Sogakofe, 12 April 2016.

<sup>133</sup> Hajia Fatti Sanni, personal telephone communication, 12 December 2016.

<sup>134</sup> Hajia Hawusatu Eleas, interview at Sogakofe, 12 April 2016.

<sup>135</sup> Hajia Hawusatu Eleas, interview at Sogakofe, 12 April 2016.

<sup>136</sup> Hajia Hawusatu Eleas, interview at Sogakofe, 12 April 2016.

<sup>137</sup> Hajia Hawusatu Eleas, interview at Sogakofe, 12 April 2016.

<sup>138</sup> Abdullah Muhammad, zongo sarechi, interview at Sogakofe, 5 April 2016.

<sup>139</sup> Hajia Amina Awudu, interview at Dabala, 25 May 2016.

Now, to the ultimate goal in assembling all this data from chapter one to this point I move: developing an African Theology curriculum.

## CHAPTER 11

### **AFRICAN THEOCLOGY: A MISSIONAL ALTERNATIVE TO 'ENVIRONMENTAL SCIENCE' FOR CHRISTIAN HIGHER EDUCATION**

I began this project when motivated by some challenges in teaching undergraduate environmental science as a missional and morally transformative subject in Presbyterian University College, Ghana. Since the experience was contrary to my personal expectation of Christian higher education I embarked on this investigation to understand better what was amiss, with a hope in the end, if necessary, to propose an alternative curriculum for the environmental science course. The processes involved both literary study and two different types of field research. Thus in concluding this thesis, I will draw out the key findings, and from them, present a proposed African theology curriculum for the consideration of Presbyterian University College, Ghana, and other African Christian higher educational institutions. It will be an alternative to environmental science as a mandatory or interdisciplinary academic subject. I will also suggest, as a way forward for Christian higher education, some factors to be considered in holistic mission and morally transformative education in general and, particularly ecological studies in the 21<sup>st</sup> century. I shall draw these factors from the literary studies in chapter two to six of this thesis.

#### **11.1 Field Research One: Studying Environmental Science at Presbyterian University College, Ghana**

This first period of field research evaluated Christian higher education as a holistic mission strategy for moral transformation in terms of the potentials in teaching and learning environmental science as a general or core subject to influence morally positive human-Earth relations. The Presbyterian Church of Ghana's (PCG) educational philosophies, policies as well as the design and delivery of environmental science as a general or mandatory course (GNSP 101) by Presbyterian University College, Ghana (PUCG) at Okwahu and Akuapem campuses, were assessed qualitatively for Christian tone and holism in education, and the related moral transformational tendencies in students for earthkeeping.

The results indicated that for Christian tone and holism both the founding church (PCG) and the institution itself (PUCG), had the mindset to render a Christian and holistic higher education. With environmental science in particular, the educational philosophy was to enable students identify themselves as humans in the image of God with vocation of earthkeeping, or self-understanding and motivation for environmental responsibility. But the research revealed a gap between mind-set and commitment to realising mind-set in the course design and delivery. For, with exception of the short period from 2009/10 to 2010/11 academic years, it was difficult to perceive a religious, particularly, a Christian perspective in the documented objectives and contents of the course. The other periods did not show evidence that the course was holistic in terms of its aims to 'seek meaning' of the environment from a Christian worldview or cosmology. Neither did its contents direct students to their religious role of loving and caring for the environment as humans made in the image of God, in accordance with the educational philosophy of PCG and in recognition of scripture as hermeneutic of eco-cultural issues.

Furthermore, the evidence showed a lack of eco-moral transformation for most of the students, particularly from the Information Communication Technology/Mathematics,



Business Administration and Rural and Community Development departments. They tended to disregard the GNSP 101 course. Their disinterestedness, irrelevant perception and non-seriousness to learning it perhaps, resulted in a lack of self-motivation for moral environmental responsibility since they did not see any wisdom in the course let alone seek that it should regulate their lives towards earthkeeping. Reasons advanced for this negative attitude of students were mainly due to their low pre-university scientific educational background, negative peer influences and the nature of the course design and delivery. The major specific reasons included these:

- (a) Most of the students had a weak science background and found the Environmental Science subject too technical and difficult to understand.
- (b) Those students who had difficulty in comprehending the course not only developed a psychological phobia to its study, but also influenced fresh students with the mentality of 'Environmental Science is difficult and cannot be passed.'
- (c) The course carried only two credit points and was not a threat to weakening final grade point average (GPA) in the mind of students.
- (d) Since there was no threat to weakening GPA there was no relevance and no serious need to learning the subject. What was necessary was only to find any and all means possible in the eleventh hour to pass and 'get rid of the burden.'
- (e) Being a science course students did not expect a religious tone or inferences in it, that is, theological faith was not expected in the learning of scientific facts.
- (f) The scientific facts and terms presented in the course were sometimes too technical and unrelated to daily life situations or applications.
- (g) Practical exposure, and religious orientation and grounding in the course was rather too few and inadequate in the design and delivery of the course to stimulate interest, relevance and self-subjection to its transformational impact. This was for fear of losing the accreditation of the course as 'Environmental Science' and not something else.
- (h) Teaching in most cases was course-focused rather than student-focused, and so mainly utilitarian rather than including formative goals also. The environmentally non-affective learning was perhaps further worsened by a lack of Christian ecological culture and ethos in the university.

However, the research showed a few cases of students being morally environmentally responsible, particularly in terms of keeping environmental cleanliness. This occurred only in the periods from 2003/4 to 2005/6 and 2009/10 to 2010/11 academic years. These cases might have been influenced, however, by students' previous basic religious cosmologies, enhanced by the few reported religious allusions during the teaching of the subject in these periods.

Based on the reasons for the gap between mindset and commitment to mindset resulting in a significant proportion of the Environmental Science students being not self-motivated enough by the course for environmental responsibility, I argued in Chapter seven that for the teaching and learning of Environmental Science to be innovative and effective as missional and morally transformative,<sup>1</sup> African Christian higher educational institutions needed to develop alternative African-oriented curricula, resource materials and appropriate methods for integrating faith and learning. Furthermore, I proposed that particularly for PUCG such an

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<sup>1</sup> Joseph Abiodun Ilori, 'Networking and partnership as tools for improving Christian Higher education in Africa', in *West African Journal of Higher Education*, Vol. 3, 2014, p. 5, says that 'Christian higher education in Africa needs suitable texts whose foundation is biblical, its perspective African, and its approach to controversial questions balanced.' He suggests relevant curricula that, considering African epistemology and ontology, are holistic in approach, aiming at nurturing and equipping students for an on-going personal formation, ecclesia reformation and social transformation. The curricula must increase the sense of African Christian identity and respond to needs of the continent as well as provide theological basis for faith and action.

alternative curriculum to environmental science would be envisaged as an African Theology, to be designed with inputs from daily life experiences from religious ecologies in Ghana. This led to the second period of field research.

## 11.2 Field Research Two: The Religious Ecological Knowledge and Praxis of the Sokpoe-Eve

In the second period of field work, to learn from the daily life experiences of religious ecologies in Ghana I investigated the ecological knowledge systems and praxis of the three main religious traditions, the Primal, Islamic and Christian, of the Sokpoe-Eve in the South Tɔŋu District of Volta Region, Ghana. It was not strictly a comparative phenomenological study of the ecologies of these religious traditions. However, it sought to and identified three minimum common grounds on which to base constructive understanding, motivating discussion and concerted action. The three common grounds that were retrieved and re-evaluated were their religious worldviews, religious impulsion for and praxis of creation care, and religious priming for harmonious ecological relationships. Religious resources such as scripture, myth narratives, sacramental rituals, symbols and taboos submitted in interviews by some devotees of the three religious traditions in the ecological area provided the analysed data. The key findings are presented in three categories below.

### 11.2.1 Religious Worldviews of Creation, Its Purpose and Humanity's Role in It

The research shows that although the details have significant differences, generally, all three religious traditions in the Sokpoe ecological area in Ghana hold theistic, but not theocentric worldviews. The three religions in the eco-area conceive *xexeme* (the world as a cosmic environment) with a dual meaning: it is, first, *agbenɔɔ baɔa* (detestable cultural ethos, i.e. unacceptable human ways of life and situations). As a way of life *xexeme* is detestable to all three religions, but for both Christians and Muslims *xexeme* in this sense must be decidedly avoided to qualify for eternal life in heaven as taught by their scriptures.

On the other hand *xexeme* is *amenɔfe/agbenɔfe* (geographical space where we live, 'geosphere'). For the three religions, the 'geosphere' is structurally the open vast geographical arena consisting of Earth surface (lithosphere), air mass (atmosphere) up to the sky (stratosphere). It is created by the Supreme Being (*Mawu/God/Allah*); it is holistic, containing human and nonhuman creations existing in interwoven relationships. It is precarious due to numerous malevolent spiritual forces that oppose both the benevolent forces and humans. Beneath but opening into *xexeme* is *avlime* ('terresphere,' spirit world), which is either home for spiritual existence of dead humans, or transitory gate for the dead to return as *amedzɔdzɔ* (reincarnates) or roam as *ɲɔliwo* (ghosts) in *xexeme*. Among the three religious traditions, only the Muslims do not believe in ghosts or reincarnates; and only the Christians and Muslims believe that the spirits of deceased devotees of their religions pass on from *avlime* to either *dziɔvii* (heaven of heavens) if the person is of good spiritual standing or *xdzomavome* (hell) if bad; both places being differently located somewhere in the 'celesphere'. The purpose of *xexeme* is to be home for and nurturing of living humanity, the most valuable of all creations as seen by all three religions.

Humanity for these religions is created by God out of clay, though some of the primal religionists do not know the origin of humanity. Constitutionally, God first created *ɲutilã* (body), and breathed *agbegbɔgbɔ* (life-giving spirit/breath) into the *amee* (thing) to become *amegbetɔ* (human being). Humans are thus composed of created *ɲutilã* (body), being

flesh/muscle and *evu* (blood) and so materialistic and mortal; and *gbɔgbɔ* which is the uncreated immaterial spirit/breath of God conjoined to *luvo* (soul), which is created but immaterial. The role of humankind is to image God as care-givers/stewards/*khalifa* of creation so it can nurture humans; and also as co-creators with God through procreation. The Muslims add, however, that the primary role, before others, is for humanity to 'worship' or 'submit' to God as a Muslim.

### 11.2.2 Religious Impulsion for Eco-valuing and Praxis of Eco-Ethics

A second area of findings that emerged related to the axiological conception of creation by all three religions. The conception is a mixture of biocentrism, zoocentrism and anthropocentrism, but is generally more of anthropocentrism. The primal religionists argue that only humans have intrinsic value because they alone have qualities of initiative taking, rationality, having emotions and possessing communication skills. To these qualities the Christians and Muslims add that humans' intrinsic value is derived from the fact that only humans are made in the image of God, with a responsibility of being his vicegerents/*khalifas* (representatives). The nonhuman creation, such as rocks, flora and fauna have only instrumental values in that they are to service humankind to be of value.

Among all three religious traditions only the primal religionists sacralise land, forests and some water bodies, especially creeks and lagoons. While they all recognise the prevalence of malevolent spirits and hence the precariousness of the ecosystems, only the primal have elaborated inhibitive and prohibitive taboos that ultimately promote eco-harmony through praxis of ethics of eco-conservation, eco-restoration, eco-preservation, eco-character formation and eco-justice. Disobeying sacred land/forest taboos is eco-crime and results in *nukpekpe* (astonishing encounter), ill-health, death and drought. Thus fear of punishment by deities, avoidance of land/water body litigations and respect for traditional authority constitute the impulsion or basis for keeping the eco-taboos. Ecological actions to restore and/or sustain eco-harmony, eco-health and eco-justice include eco-rituals like *ekpokpokplo* (land purification rite) and legal enforcements at traditional or law courts.

There are no distinctly identifiable Christian or Islamic eco-ethics or norms (practical regulations) in the Sokpoe eco-area. Yet in order not to compromise their faith the Muslims vehemently oppose primal eco-ethical praxis and demonstrate neither religious impulsion for nor praxis of creation care. They claim that the Qur'an does not regulate use of nature for human needs, unaware that it does. The Christians, on the contrary, I argued relate to primal religious eco-ethical praxis in three ways or groups: first is the 'Acculturated Christians' who being influenced by their primal religious cosmology more than their Christology strictly comply with primal religious eco-taboos for fear of the deities. The second group is the 'Passive Christians' who neither object nor comply so as not to practise 'syncretism.' The third group is the 'Deculturated Christians' who have demystified the fears of ecological deities and taboos and freely clear forested lands for developmental needs of humans. I suggested in Chapter nine that a better approach is perhaps to be 'Culture-Converting Christians' who engage Scripture as hermeneutic for ecological issues, aimed at life-long transformational development of eco-virtues. In that case African Christian eco-ethical impulsion for and praxis of creation care may rest on the self-understanding as being made in the image of God, being vicegerents of creation, having kinship with creation, and disciples of love-God-love-neighbour doctrine.

### 11.2.3 Birthing Rites as Religious Priming for Sustainable Ecological Relations

In the research I analysed the liturgies and symbols for birthing rites of the three religions in the Sokpoe ecological area. Though I noted four main birthing rites - *fukatsotso* (pregnancy liberation), *amenɔɔɔɔɔɔ* (placenta burial), *viɔɔɔɔɔɔ* (baby outdoorings) and *veɔɔɔɔ* (twin accordance rite) - I reported on only *viɔɔɔɔɔɔ* as in chapter ten. I argued in the findings that the birthing rites suggest significant ecological implications as means of priming for sustaining harmonious ecological relations in their holistic view of the world.

Concerning *viɔɔɔɔɔɔ* I discovered that there are differences in the details and emphases within and between religious traditions. However, in my findings from the primal religious tradition, I suggested that these rites have implications of preparing a child for sustainable eco-relations through (1) 'Gecospheric' acclimatisation and fortification, (2) Grounding into land of birth, and (3) Socio-cultural orientation and integration.

I found that Christians attach the same meaning but use different symbols for the birthing rites - *fukatsotso*, *amenɔɔɔɔɔɔ* and *viɔɔɔɔɔɔ* - as in primal religion. They recognise these birthing rites as *dekɔnu* or something characteristic of, and hence, uniquely identifiable with the eco-cultural community of which Christians are part. However, not all the Christian churches perform all these rites or with the same liturgical emphasis and elaboration. For 'gecospheric' acclimatisation and fortification some reported some liturgical practices of *fukatsotso* and *ɔɔɔɔɔɔɔɔ*. As grounding into land of birth only some of the Christians practise *amenɔɔɔɔɔɔ* (placenta burial), *hɔɔɔɔɔɔ* (umbilical cord burial) and *vitsɔtsɔfiawo* (showing baby to sun, as first part of *viɔɔɔɔɔɔ* or baby outdoorings). However, none of the Christians, including those who practice parts of these rites, do so with the mind of performing religious rituals or with any ecological implications. Consequently, they expunge from their reconstructed liturgies some of the primal religious rituals that together give meaning and eco-implication to the birthing rites as grounding into land of birth. The commonest form of Christian birthing rite is limited to the socio-cultural orientation and integration performed as *nyikɔtsɔtsɔ* (naming) ceremony.

The research analysed the birthing rites that Muslims perform. These practices are not necessarily understood or approached with the mind that they are *dekɔnu* (cultural rites), which to them are satanic primal religious practices of the indigenous Sokpoe-Eve. Yet their birthing ceremonies portray some of the primal religious birthing rituals, and hence have implicit ecological priming potencies. For instance, they have no rituals for *fukatsotso* (pregnancy liberation), but keep mother and neonate indoors in *ɔɔɔɔɔɔ* for seven days, for geocospheric acclimatisation and fortification. They practice *amenɔɔɔɔɔɔ* (placenta burial) in their own way, which implies grounding in the land of birth; and they perform the *nyikɔtsɔtsɔ* (naming) aspect of *viɔɔɔɔɔɔ* (baby outdoorings), which ecologically is a socio-cultural orientation and integration ritual.

Thus, the discovery of these common religious ecological ideas from the Primal, Christian and Islamic traditions in Sokpoe ecological area suggest that there are plausible and possible grounds on which a proposed African theology curriculum can be developed and enable constructive discussions and motivate concerted actions in a religiously plural class.

### 11.3 Description or Philosophy of the African Theology Curriculum

The African theology course is designed as a mandatory subject to provide moral ecological orientation to undergraduate students in all academic disciplines of study in the Christian higher educational institutions, particularly in Ghana. It introduces the newly emerging field of religion and ecology, or theology for short, as a hopeful missional

alternative that may pragmatically encourage moral responsibility for creation rather than 'environmental science' as a secular subject. It explores human relations to the natural world as understood in African Christianity, but incorporates phenomenological parallels from Primal and Islamic traditions, since 'pluralism has important implications for any project to bring about a more ecological society.'<sup>2</sup> The course draws on both African religious worldviews and modern scientific concepts of the field of ecology for an understanding of the orientation of humanity to the creator and creation as well as the dynamic processes of Earth's ecosystems and their function.

As John Grim and Mary Evelyn Tucker observe, 'for many years science, engineering, policy, law, and economics were considered indispensable for understanding and resolving environmental problems,' based on western Enlightenment and secular views of the world. They argue that,

We now have abundant knowledge from these disciplines about environmental issues, but still not sufficient *moral will* to engage in long-term change for the flourishing of the Earth community. Thus, there is a growing realisation that religion, spirituality, ethics, and values can make important contributions, in collaboration with science and policy, to address complex ecological issues.<sup>3</sup>

The course proposes to examine those contributions, particularly from African perspectives, acknowledging both the problems and promises of religions, especially Christianity.

David Mutasa observes that teaching about the environment in Africa has usually been teacher-centred, thus the teacher is the transmitter of knowledge.<sup>4</sup> He suggests that today environmental education requires taking the learners outdoors to the biophysical environment. He believes that 'by teaching in the environment, an emotional bond will be established between the learner and the environment'<sup>5</sup> as has been the experience in our indigenous African eco-cultures. African Theology is designed with a mind-set of being not only a holistic mission curriculum for moral transformation toward creation care, but also to be delivered with a pragmatic and balanced pedagogy including integration of faith and dependence on the Holy Spirit's enlightenment. Students need to be exposed to real environmental situations as much as possible, participate in an ecological culture of the institution and use Scriptures as hermeneutic of the ecological issues encountered whether from an ecological science (fact-base) or religious ecology (faith-base) perspective.

This twelve-week contact (non-online or non-distance) and field course is offered as a non-major in ecological studies to engage students in Ghanaian Christian universities and colleges, but particularly the Presbyterian University College, Ghana (PUCG), in year one.<sup>6</sup> However, it may be a prerequisite for the major programme on Environmental and Natural Resources Management at PUCG. Three credits will be offered for the course.

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<sup>2</sup> Curry, *Ecological Ethics*, p. 25.

<sup>3</sup> John Grim and Evelyn Tucker, 'Yale School of Forestry and Environmental Studies: Online course on Religion and ecology,' accessed 1 May 2017, [http://fore.yale.edu/files/Introduction\\_to\\_Religion\\_and\\_Ecology.pdf](http://fore.yale.edu/files/Introduction_to_Religion_and_Ecology.pdf)

<sup>4</sup> Davie E. Mutasa, Shumirai Nyota and Jacob Mapara, 'Ngano: Teaching Environmental Education: Using the Shona Folktale,' *The Journal of Pan African Studies*, vol.2, no.3, March 2008, p. 35.

<sup>5</sup> Mutasa, Nyota and Mapara, 'Ngano: Teaching Environmental Education,' p. 35

<sup>6</sup> Acording Stewart, 'Transforming higher education', p.5, it is important that students should have a foundational knowledge of sustainability by the end of their first year.

### 11.3.1 Course Requirements:

Students are expected to complete each week: one and a half hours of lectures plus one and a half hours of watching environmental videos or field visitation; Online assignments posted to the departmental platform after the first major sub-theme or end of the 4th week; Group assignment, discussions and presentation in class after the second major sub-theme or the end of the 8th week; Writing a 3-hour end of semester examination consisting of both multiple choice and essay questions, at end of third major sub-theme in week 12.

### 11.3.2 Course Grading:

Grades will be determined on the basis of the completion and quality of participation in class, course assignments, especially group assignments and discussions in the classroom, and the written examinations.

### 11.3.3 Course Objectives:

- (1) To help students appreciate the importance of the Earth and all that is in it as God's creation (natural and built environment), particularly humans and their place in it.
- (2) To raise students' awareness of current ecological issues, particularly anthropogenic ecocrisis, and hence the need for education for sustainability by all humanity.
- (3) To assist students know and understand how the world works and can be sustained with methods undergirded by both African religious worldviews and scientific understandings.
- (4) To induce impulsion for moral ecological responsibility in students, using critical thinking, problem-solving skills, and scripture (backed with prayer and Holy Spirit guidance) as ecological hermeneutics.

### 11.3.4 Course Content/Format:

African theology as an interdisciplinary subject embraces a wide variety of topics from different areas of study, particularly ecological science and theology. There are several major unifying constructs, or themes, that cut across the many disciplines included in the study of theology; and the choice of themes for this curriculum takes into consideration the Christian missional and African contextual needs. For instance, in order to properly understand the nature of the environmental crisis in Africa, we need to understand the ways in which both primal and modern social structures and technoscience have led to environmental degradation.<sup>7</sup> Moreover, as Agbanu avers, missional teaching of 'environmental science cannot be in a vacuum', but with students' prior understanding of the environment and how it functions from their cultural setting. Then science can help them to improve on it.<sup>8</sup> In addition, Fainos Mangena suggests acknowledging moral status of nonhuman creation is a starting point for any discourse on environmental ethics in Africa.<sup>9</sup>

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<sup>7</sup>Samuel Ogungbemi, 1997. 'An African perspective on the environmental crisis.' In: Ojomo, P. A. 2011. *Environmental ethics: an African understanding*. (Accessed on 5 April 2013). <http://www.readperiodicals.com/201103/2323094941.html>

<sup>8</sup>Agbanu, interview at Legon, 23rd November, 2015.

<sup>9</sup>Fainos Mangena, 'Discerning Moral Status in the African Environment', *Phronimon* Vol. 14, No. 2, 2013, P. 25. Accessed 28/1/2015 [http://r.search.yahoo.com/\\_ylt=A0LEVzEK4shUnOsA.ORXNy0A](http://r.search.yahoo.com/_ylt=A0LEVzEK4shUnOsA.ORXNy0A).

The following themes provide a foundation for the structure of the African Theology course.

### **I. Ecological problems and Relevance of Mandatory Theological Studies**

- ***A planet in peril:*** The Earth as Our Gifted Home (environment); historical awareness of ecological problems in the world, Africa and Ghana; major eco-problems e.g. waste, degradation, pollution, ozone layer depletion, global warming, biodiversity loss, eco-injustice, eco-feminism, poverty, moral decadence etc;
- ***Natural and anthropogenic ecocrisis -causes and remedies:*** disasters, population, lifestyle (human need and greed), organisation (politics), technoscience and secularisation; debates against anthropogenic ecocrisis; scientism as remedy for ecocrisis in secularised world.
- ***The missing link:*** Limitations of secularised approaches, especially modern technoscience, in mitigating ecocrisis; religious ecology (or theology) as emerging alternative (complementary and supplementary) means for resolving ecocrisis; African Theology explained/defined and role of moral impulsion for creation care. Shared phenomenological ideas from Primal, Christian and Islamic religions.
- ***Sailing or sinking together:*** Pluralism and concerted effort required for ecological projects; justification/need for mandatory creation care education for all academic disciplines in higher educational institutes. Practical examples from various disciplines of study and profession are required, especially at local levels.

### **II Toward Resolving Ecocrisis: Understanding Our World with Faith (Religion) and Facts (Science)**

- ***African holistic worldviews:*** The Earth as one interconnected system and home (environment) for the Life of more-than-human creations (animate and inanimate, natural and artificial). Creation, Creator and humanity in relationships. Discuss similar theistic but non-theocentric and precarious views from Primal, Christian and Islamic traditions.
- ***Scientific View of How the world works:*** Ecological Science defined/explained; scientific concepts of 'geosphere', its origin and ecosystems; Ecosystem structural components and function; eco-communities and species interactions; Ecosystemic life as interplay of matter, energy and their operational laws of nature.
- ***Nature's life nurturing function:*** Earth's endowed resourcefulness, natural resources - definition, importance and measurement; natural resources of Ghana: their locations, level of development and exploitation, measurement, economic value/uses
- ***Human impact on environment:*** anthropogenic damage to the ecosystem and secular approaches of remedy; challenges of western scientism in resolving ecocrisis.

### **III Integrated Approaches to Earthkeeping in the 21st Century**

- ***God's natural self-conservation laws in ecological science:*** Cosmic balance/equilibrium and self sustenance; biogeochemical systems as Earth's divinely endowed abilities to recover from perturbations/ disturbances; moral implications of cosmic balance for creation care. Discuss ideas from Primal, Christian and Islamic traditions.
- ***Practical scientific conservation principles and methods:*** restoration ecology, creating artificial ecosystems; international conventions and their historical limitations.

- ***African Christian eco-care praxis***: Promises and problems; God's creation is good, valuable and purposeful; eco-ethical principles of *imago Dei*, vicegerency, kinship with nature, and love-God-love-neighbour as impulsion for eco-care; biblical examples of eco-praxis; ecological crime or sin. Discuss similar ideas from Primal and Islamic traditions, especially ecological rituals as priming for creation care.
- ***Revision and End of Semester Examinations***: Quick review of major topics, examination regulations and prayer for success.

A suggested reading list for this proposed curriculum is in Appendix C of this thesis.

## 11.4 Christian Higher Education and Studying Theology in the Twenty-first Century

The research in this thesis has provided evidence of a few factors from both the literary and field studies for the future of Christian higher education in general and specifically for studying theology in Ghana and Africa. Particularly in rethinking how PCG and other Christian education founding churches may offer ecological studies as a holistic mission strategy toward instilling moral creation care impetus in the Christian academia, both the founding church (such as PCG) and its educational institution (such as PUCG) may consider the following insights gained through this thesis:-

- (a) It is important to consider what I referred to in chapter two of the thesis as the discovered and recoverable 'twines' for making the new 'cord', *holism*, in Christian higher education. In the first place, the purpose of Christian higher education needs be considered as a holistic mission and ultimately for transformational development. Second, it necessitates designing higher academic programmes, particularly, theology curricula, with theocentric cosmology or the centrality of theology. Third, the content of the curriculum encompasses knowledge of the unity of truth. The fourth twine is method of delivery which may employ balanced pedagogical approaches that ensure integration of faith in learning. Fifth, holistic Christian education involves appreciating the role of the Holy Spirit in the teaching and learning process.
- (b) The development of a system to self-monitor the commitment of the founding church and the educational institute to the holistic educational policies and the missional *raison d'être* is critical for their constant implementation. Particularly for environmental concerns, PUCG and other Christian higher educational institutions pursuing holistic mission in academia, the creation of eco-communities are imperative characterised with a strong Christian ecological culture and ethos. Gabriel Moran describes it as 'a network of human relationships that unleash the human energies which heal and reveal' how we should relate aright in the ecosystem - with God, self, others and the environment.<sup>10</sup> The need for creating this eco-cultural context in the university is because, from a social constructivist point of view, education can influence moral transformation effectively if it is 'a process in which the whole community educates the whole community for the whole communal life.'<sup>11</sup> Practically, the context of a Christian ecologically conscious academic community has a high probability of facilitating and influencing the pragmatic integration of Christian environmental ethics into academic curricula, as enshrined in the doctrines

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<sup>10</sup> Gabriel Moran, *Design for religion: Toward ecumenical education*, (New York: Harder and Harder Inc., 1970), p. 102.

<sup>11</sup> Moran, *Design for religion: Toward ecumenical education*, p. 100.



and traditions of the founding church. This affirms Andrew Walls remark that 'scholarship is caught and not taught'.<sup>12</sup>

- (c) Harnessing global efforts to resolve ecocrisis requires that environmental studies do highly emphasise moral motivation for creation care, involving all students in all fields of study. This underscores the need for mandatory or a general ecological curriculum. The moral motivation required may be retrievable and reconstructive from primal religious ecological knowledge systems and other world religions,<sup>13</sup> because such shared pluro-religious eco-experiences have important implications for any project to bring a more ecological society as argued in chapters three and seven of this thesis.<sup>14</sup> No longer will ecological science and technology alone, but rather their synthesis with religious ecology, be the valid or true way for resolving ecocrisis.
- (d) Furthermore, it is imperative for African Christian higher educational institutions to consider retrieving, adopting and adapting appropriate cultural thoughts and categories if the teaching and learning process for environmental moral transformation is to be effective and innovative. For, to be effective, studying ecological science in Africa needs the foundation of African religious worldviews to provide eco-cultural contexts and self-understanding of students. African Theology, unlike the Enlightenment influenced western theology, acknowledges the importance of kinship with nature in its primal worldviews. This makes it plausible to influence, among others, 'human responsibility for the continuity of life, and restoration of both humans and ecosystems for the flourishing of life.'<sup>15</sup> Additionally, a cultural approach to mission-oriented education, 'helps not only to communicate the gospel, but also to enlarge and enrich the whole [educational community's] understanding of it.'<sup>16</sup> From the evidence in this thesis, I argue that the challenge for an African contextual approach is the more significant, because the development of theologial and ethical thinking and action in Africa will determine mainstream Christianity, including Christian ecological praxis<sup>17</sup> since what happens in Africa as a heartland of Christianity will determine what the Christianity of the twenty-first and twenty-second centuries will be like.<sup>18</sup> Consider the tree planting mission of Zimbabwean Earth-keepers, for instance. They produced theologies and liturgical practices, which may be of intellectual interest and resourceful for research in our universities. Such research could aim at determining a sound biblical and cultural foundation that stimulates and sustains our self-motivation for moral environmental responsibility, in our global mission-struggle against environmental threats to the Earth.
- (e) Assuming all the insights above, particularly how PCG and PUCG may pragmatically fulfil the environmental policy in holistic Christian educational philosophy, I propose, for consideration, African theology as an alternative environmental science curriculum. I do not presume that this proposed alternative curriculum is a panacea to resolving ecological problems in the Christian mission universities or the society at large. However, on the evidence presented in this thesis, it is worth trying at least as verification of some of the religious eco-ideas gathered from the research. Research shows that in places where value systems are significantly influenced by theistic

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<sup>12</sup> Gillian Mary Bediako, 'Reflections on the scholarship of Kwame Bediako and its importance for African Theology,' *Journal of African Christian Thought*, Vol. 12, No. 2 December 2009, p. 21.

<sup>13</sup> Grim and Tucker, *Ecology and Religion*, p. 8.

<sup>14</sup> Curry, *Ecological Ethics*, p. 25.

<sup>15</sup> Grim and Tucker, *Ecology and Religion*, p. 8.

<sup>16</sup> Walls, 'Christian scholarship in Africa', pp 44-52 (46).

<sup>17</sup> Walls, 'Christian Scholarship in Africa', p. 47.

<sup>18</sup> Walls, 'Christian Scholarship in Africa', p. 47.

religious worldviews, religious affiliations tend to promote positive environmental behaviours and attitudes rather than discourage them; and in some cases, theology even serves as an ideological resource for non-believers.<sup>19</sup> The success, however, will partly depend on the commitment of the church to its environmental policies and institutional authorities to their implementation mandates. For PCG and PUCG the suggestion of Very Rev. A. A. Beeko may be worth considering in engaging lecturers and staff who will not just talk about upholding Christian principles and the rule of law, but practice what they preach and do things they teach; frame policies that retrieve the underlying principles of 3-H (Head, Heart, Hands) training in the past; carefully select and train (theology) teachers to see their vocation as God-call; support the department of theology to categorically say and convince the Accreditation Board to acknowledge that 'this is our policy, this is how we are going to train those in our care' and so 'students and parents must sign declaration to abide by the regulations of the institution.'<sup>20</sup>

- (f) The findings of the thesis provide a basis for the PCG for a more thorough study into the applicability of her policy and expectation of PUCG to be one of the 'mediums of making converts'<sup>21</sup> at tertiary level. I did not identify any known record of any systematic scrutiny of the implementation of PCG's holistic and mission-education policy at higher education level. As such, I suggest that this thesis contributes to an evaluative tracking of progress for both church and institutional decision making into the future. Although it appears to be an assessment of only a specific and miniscule aspect of the praxis of the Presbyterian holistic and mission-educational philosophy, yet, the experience gained may encourage development of, as Allan Glatthorn explains, an instrument that we may use in broader studies<sup>22</sup> of further reforms in the university. Education has always been awash with new ideas about learning and teaching<sup>23</sup> in accordance with the ever-changing human experiences of life.
- (g) Finally, the results of this research provide a significant amount of primary data and basis for more work to be done among the Sokpoe-Eve in particular, but the Tɔŋu-Eve in general, in the areas of religion, ecology and ethics in our search for appropriate cultural contributions to resolving global ecocrisis. In addition, the retrieved primary data may assist in reconstructing practical Christian theologies and pastoral liturgies for eco-related ceremonies like birthing and funerary rites that prime for creation care, at least for Tɔŋu-Eve Christians. Thus the study has implications not only for holistic Christian education at church and institutional levels, but also for practical Christian and pastoral involvement in ecological praxis or creation care.

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<sup>19</sup> Gregory E. Hitzhusen *Environmental Education Research*, Vol. 13, No. 1, February 2007, pp. 55–74 (66).

<sup>20</sup> A. A. Beeko, 'Radiating the rays of Discipline - The role of Presbyterian Church of Ghana', In: *Uprooting Thorns of Indiscipline*, (Accra: Public Relations Unit, PCG, (2003), pp. 19, 20.

<sup>21</sup> Martey, *Presbyterian Policy on General Education*, p. 5..

<sup>22</sup> Glatthorn, *Writing the winning dissertation* p. 76.

<sup>23</sup> Wilson and Peterson, *Theories of Learning and Teaching*: p. 1.

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## APPENDIX A

### Transcripts of Interview Responses Quoted in the Thesis

#### Appendix A1: (Samuel Agboklu, Sokpoe, on *Mawu* as Creator)

*Trɔ̃subɔlawo nyae be Mawu dzi foviitɔe wɔ ame kple nusiwo kata le anyigbadzi. Eyata wo yɔe be Sogbolisa, Okitikata. Aɖaɖu wɔɔ, Dɔnyuiwɔɔ. Ewɔ asi kple afɔ, anyigba kple edzinuwo keɖ. Eyae me ame kple anyi he gbɔ gbɔgbɔ ɖe eme.*<sup>24</sup>

#### Appendix A2 (Geoffrey Siame, Sokpoe, on purpose of human and nonhuman creation)

*Le tsitsiawo fe gɔmesese nu la Mawu wɔ amegbetɔ be ame nɔ ameteɖe alo ɖe eɖokui tefe. Eyata wòwɔ mi ɖe efe nɔnɔme nu. Eye esi miɛkpɔnɔ o ta la miɛ wɔa legba abe ame alo nuwɔwɔ bubu ɖe ɖe etefe. Legba siawoe tɔa miɛfe nyawo yina na Mawu. Ne dɔ aɖe gakpe ɖe eɖu la eya koe nye dzidzi. Abe wɔla ene la ena mi mɔnukpɔkpɔ be miɛadzi, eye wòwɔ nusiwo akpe ɖe miɛɖu na efe dɔwɔwɔawo la foxlã mi be miɛ ɖã.*<sup>25</sup>

#### Appendix A3 (Alhaji Ali of Dabala Junction: zongo ethnography as ecological challenge.)

*Le zongo me la amewo tso tefe vovovowo va: wotsɔ susu vovovowo tso wofe de vae. Wo katã wova fofu le zongo ɖeka. Eyata wofe gɔmesese mesɔ o. Eye wo me ɖoato wo nɔewo o. Amesiame dia be yeawɔ nu alesi ye nyae tsoo yewo de nuwɔnawo me la ko. Hekpe ɖe eɖu la esi wònye gbeɖgbɔgbɔ vovovowo abe Hausa, Faɖra, Dagati kple zamramzamra yae fofu ta la, wome sea nugɔme na wonɔewo o. Amesiame bube nusi yenya tso ye fe de la nyo wu ame bubu sitso du bubume la tɔ.*<sup>26</sup>

#### Appendix A 4 (Hajia Sanni Fati, Sogakɔfe: Islamic view of structure of the geocosphere)

*Xexeme enye 'dunia' si nye amegbetɔnɔfe. Ele dome na dziɔ kple anyigba, elabe miɛle 'centre' eye dziɔ kple anyigba xixa mi. Eyatae wo yɔe be 'xexeme'.*<sup>27</sup>

#### Appendix A5 (Alhassan Ibrahim, Sogakɔfe: Islamic view on Creation of humanity)

*Gbã la, le Koran me la, Mawu dɔ dɔla ɖeka wò va ku anyi eye Mawu me ame he siae fe bla ene. Le fe bla ene sia megbe la ede agbe gbɔgbɔ eme; eyae nye Adamu. Emegbe Mawu tɔ Adamu fe axa fu ɖeka he me Hawa. Etsɔ wo da ɖe paradisoɔ me.*<sup>28</sup>

#### Appendix A6 (Idrisu Ibrahim, Sogakɔfe: Islamic view of human constitution)

*Ame la vukɔ wò nye. Ne vua bla nenema la enɔ anyi ŋkeke bla ene hafi atrɔ azu ame. Le ŋkeke bla ene bubu me la Mawu ade gbɔgbɔ lãkusi si wotsɔ anyi he mee la me. Lãkusi sia la enye vu gake henye anyi. Eyata ne eku la ega trɔa zu anyi. Ne ame ku la gbɔgbɔ ɖeɖa eye ŋutilã tsi anyi.*<sup>29</sup>

<sup>24</sup>Samuel Agboklu, interview at Sokpoe, 2 March 2016. The same understanding and names of God were expressed by Geoffrey Siame, interview at Sokpoe on 17 February 2016.

<sup>25</sup>Geoffrey Siame, telephone interview, 6th April, 2017.

<sup>26</sup>Imam Alhaji Ali, interview at Dabala Junction, 17th May 2016

<sup>27</sup>Hajia Fati Sanni, interview at Sogak45e, 14 April 2016.

<sup>28</sup>Alhassan Ibrahim, interview at Sogakɔfe, 14 April 2016.

<sup>29</sup>Idrisu Ibrahim, interview at Sogakɔfe, 23 April 2016.

**Appendix A7 (Zongo sarachi Abdullah Mohamed, Sogakofe: Islamic view of Human creation)**

*Ame d̄esiad̄e la nyɔnu kple n̄tsu ye dzie. Ne nyɔnu fɔfu la etsi si n̄tsua trɔ d̄e efe vidzi kotoku me la trɔa zu vu le n̄keke bla ene megbe. Le n̄keke bla ene bubu vɔ me la evu la trɔ zua l̄akusi. Ke le n̄keke bla ene si ga kplɔe d̄o megbe la, si fia be dzinu enelia megbe la, Mawu dea gbɔgbɔ l̄akusi la me be w̄dazu ame agbetɔ si woavadzi.<sup>30</sup>*

**Appendix A8 (Mama Mary Azuma, Sokpoe: Christian view of structure of the geocosphere)**

*Amegbetɔ fe afo le anyigba eye efe ta ged̄e yame nɔ fea. Nenemake ati, tsigbanawo, xeviwo, nugbagbewo kple gbɔgbɔv̄wo le anyigba, gake d̄ewo le yame h̄a<sup>31</sup>*

**Appendix A 9 (Mama Mary Azuma, Sokpoe: Geocosphere structure)**

*Nusiwo le yame h̄a fe alɔdzewo vaa anyigba dzi. Kpɔ ye d̄a, dzinu kple dzinuviwo le ya me, ke wofe kekl̄e vaa anyigba dzi.<sup>32</sup>*

**Appendix A10 (Evelyn Blasu, Abetifi: Christian view of structure of geocosphere)**

*Xexeme d̄eka koe li: anyigba kple eme nuwo. Gake yame ma xexeme alo anyigbadzi d̄a tso dzifo gbɔ.<sup>33</sup>*

**Appendix A11 (Andrews Ahado, Sokpoe: on constitution of humanity)**

*Ame enye n̄til̄a kple gbɔgbɔ si Mawu gbɔ de eme. Mawu yɔe be luwɔ gbagbe. Eyata ne amegbetɔ ku la wo mega yɔa efe n̄ko o; wogblɔ na be 'ameɛ' ko evɔ. Gbɔgbɔ mee susu, dzimedidi, kple sese le l̄ame le. Eyata Biblia be luwɔ si wɔ nuwɔ la luwɔma aku. Amegbetɔ si sea nu alo hea susu la yɔm Biblia le be 'luwɔ gbagbe'.<sup>34</sup>*

**Appendix A12 (Kofi Avinyo Atiglo, Sokpoe: Primalist eco-valuing of creation)**

*Ga alo sika mefoanu o; gbetɔ koe afo nu kplim. Nusi aɔo aɔaɔu alo ahe susu kplim la xɔ asi wu bubuawo kej le xanye.<sup>35</sup>*

**Appendix A13 (Geoffrey Siame, Sokpoe: on primalist view of sacred forests)**

*Trɔve enye dekonu wɔfe, tefe si wo d̄oa n̄ku trɔla fe d̄wɔwɔ dzi adogbe d̄a n̄e. Ke trɔa n̄tu ya la afemee wo nɔ na. Ne konuwɔyi d̄o be woa le tsi na trɔla eya ko wo xatsaa avɔ yi d̄e eɔu atsɔe yi d̄e ave la me hena konuawɔwɔ ko aga gbugbɔe ayi afemee.<sup>36</sup>*

**Appendix A14 (Kofi Avinyo Atiglo, Sokpoe: Primalist view on flouting eco-taboo)**

*Eyata ne eɔu kɔ na anyigba si dzi tɔ kple afu le hafɔ naa tsi dza na la tsi maga dza o negbe d̄e wo xenuxea hafɔ.<sup>37</sup>*

<sup>30</sup> Abdullah Mohamed (Zongo sarechi), interview at Sogakofe, 5 April 2016.

<sup>31</sup> Mary Azuma, (PCG), interview at Sokpoe, 1 March 2016.

<sup>32</sup> Mary Azuma, (PCG), interview at Sokpoe, 1 March 2016.

<sup>33</sup> Evelyn Blasu, interview at Abetifi, 16 January 2016. See also John Bosoka, interview at Sokpoe-Badzoɔife and Matthew Agbatɔ, interview at Sokpoe- Bodzoɔife, 24 February 2016 who see the three dimensions of xexeme as 'the Earth, atmosphere and water body'; and 'the Earth for humans and living things, atmosphere for sun, moon, rain etc and Heaven for God's abode', respectively.

<sup>34</sup> Andrews Ahado, interview at Sokpoe, 5 February 2016.

<sup>35</sup> Efoe Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.

<sup>36</sup> Anthony Kɔwu Yɔhokpɔ, interview at Sogakofe, 17 February 2016.

<sup>37</sup> Efoe Avinyo Atiglo, interview at Sokpoe-Elavanyo, 15 February 2016.



**Appendix A15 (Kowu Yohokpo, Sogakofe: Primal view of cleansing ecological sin)**

*Nuxe sia enye kpokpokplo. Wo xe ne nenyè be ku òi sesiè eye wo bu be amewo fe nuvòdìwòwò òe anyigba òu va sugbò akpà la. Ekema ehĩa be woa kplò anyigbadzi nuvòawò katà ade tò be tsi sisi nakplòwò ayii afu mee.*<sup>38</sup>

**Appendix A16 (Kowu Yohokpo, Sogakofe: Eco-sin cleansing ritual by primalists)**

*boboboboboe, vòmenyo o, vòmenyo o, vòdì òesiade nedzo, gbeblè òesiade, nyonutò kplè òutsutòwò kata nekplò fiafiafia, dòlele ne tsrò, numadzemadzewòwò nu ne tso keñ, ahedada ne bu, eye tsi ne dza ne agbe na trò gbò yeye va fe na mi.*<sup>39</sup>

**Appendix A17 (Margaret Asuma, Sokpoe-Bodzodife: Christian view on eco-valuing)**

*Togbò be Mawu wò xexeme nuwo kata hafì wò amegbetò hâ la amee hĩa gbâ le nuawò katà dome. Nusi akplòe òe enye sika alo ega; gae kpea òe gbetò òu hafì wò de blibo. Gbònye nuòuòu ta eya ava etòlia. Ne ati la tsròhâ la mewò naneke o. Ate òu ayi faa. Egbegbe hâ òòò ma nu ko mawòe.*<sup>40</sup>

**Appendix A18 (Daniel Agbota, Sokpoe: Christian preferences for Sokpoe ecosystems)**

*Tònu nòwò nyo awu elabe tsâ Amu òò na, eye wò naa liòòò va yame kplè agbledede kpakple lâ òeòe òu. Tsi òòò gbòa agbe anyigba si fu le dzome òòli la. Esi òòòòò siawò nò anyi ta la amewò kpòa dzidzò le tònu nòwò me. Amesiwo òia tsa hâ la yi na sèe ko aga trò, elabe afe nyo wu gbe.*<sup>41</sup>

**Appendix A19 (Evelyn Blasú, Abetifi: Christian preferences for Sokpoe ecosystems)**

*Fifia la matia avenyigba elabe tsi adza le gama kabakaba wu tònyunyigba. Alesi Amu nòa tsâ la megali o: tsi mega òòa o, lâ mega le tòa me o, eye agble hâ mega le nyonyom o. Tònu nòwò mega òevi abe tsâ ene o. Aveme ya la tsi adza eye ne glo hâ la gbemelâ axò òe tómelâ tefe togbò be tómelâe nyo nam wu hafì.*<sup>42</sup>

**Appendix A20 (Isaac Avi, Sokpoe: Christian view of primal eco-taboos)**

*Abe Krsitòò ene la nye me kpò vòle seawò òu o. Gakè menyò be wòanye tròsubòlawòe dee o. Edze be Kristòò nase egòme be ehĩa be woana mò lâwò be woatsi hafì alèwò. Eyata seawò la Mawu fe se wonye. Edze be amesiame (tròsubòla kplè Kistòòwò sia) nade dzesii be Mawu gbò seawò tso hafì va miàfe susuwo me; menyè amegbetò siwo nye tròsubòlawò fe se wonye o.*<sup>43</sup>

**Appendix A21 (Winner Eworyi, Sokpoe: Christian view of primal eco-taboos)**

*Mawu fe òusè li gake abosam hâ tò li. Tròsubòlawò wòa kònnunu le tròvewò me eyata trò fe òuse le aveà me. Mexòese, togbò be Kristòò me nye hâ. Nye me le atsindzie òi ge ayi òe tròvè me akpò o, òe vòvòna tròla ta.*<sup>44</sup>

<sup>38</sup> Anthony Kowu Yohokpo, interview at Sogakofe, 17 February 2016.

<sup>39</sup> Anthony Kowu Yohokpo, interview at Sogakofe, 17 February 2016.

<sup>40</sup> Margaret Asuma, interview at Sokpoe-Elavanyo, 25 February 2016.

<sup>41</sup> Daniel Agbota, interview at Sokpoe, 11 March 2016.

<sup>42</sup> Evelyn Blasú, interview at Abetifi, 26 January 2016.

<sup>43</sup> Isaac Avi, interview at Sokpoe, 2 February 2016.

<sup>44</sup> Winner Eworyi, interview at Sokpoe 3 February 2016

**Appendix A22 (Daniel Agbota, Sokpoe: Christian view of primal eco-taboos)**

*Fifia la xose woe be vovona trawo me li o eye vide me le konuawo wawo le aveawo me nu o. Le nyatefe me la enye mi Kristoto dekakpui adewo fe didi be woa gba aveawo ne mia kpɔ xɔ tufe. Nye ya me dze egome xoxo; me fle kotive fe akpaɛ be matu xɔ ɛ gama.*<sup>45</sup>

**Appendix A23 (Hajia Fatti Sanni, Sogakofe: Islamic valuing of creation)**

*Amegbetɔ gbã, elabena novinye ame yo. Ne etsi agbe la akpe ɛe nyunye awɔ dɔ be makpɔ gbɔ kple sika. Gake ne yeyiyi li la male gbɔ, elabe eya hã agbe le eme. Azɔ etolia anye ga; ga menye fefenu o, eyae kpeɛe nyunye mekpɔ vinyewo dzi. Ati ya ne ebu hã madi bubu ado.*<sup>46</sup>

**Appendix A24 (Zongo sarechi Abdullah Muhammad: Islamic view of primal eco-taboo)**

*Dutwo fe konu woe nye ma. Wo menyo na Muslim o. Muslim la dekonu adeke meli wowo na o. Ava na miatra mɔ. Nusi nye Mawu to alo fe nya koe hia. Ne dekonutwo gblɔ be maga klɔ agbelimakusi le to me o la nyemele se sia dzi wɔge o. Le kpɔɛnyu me, esi Koran meɛe mɔ be miadu ha la o ta la miɛe o.*<sup>47</sup>

**Appendix A25 (Haji Fatti Sani, Sogakofe: Islamic views on primal eco-ethics)**

*Awusatɔ menya kɔ o. Dutwoe nɔa konyinyi nya gblɔm. Deke melɔ mi le zongome o, yata nyemenya ave nyuti se alo konyinyi adeke o. Trɔve me la Awusatɔ mele yiyi ge o.*<sup>48</sup>

**Appendix A26 (Alhaji Ali at Dabala Junction: Islamic response to primal eco-regulations)**

*Ao. Tsa la dutwo de se be wo mayi agble le agsigbe o. Mewɔ ɛe edzi ela be nye hã mele dua me. Wo be anyigba fe kɔ yo. Evelia Dabala tosisisi si to bridzi gome yi Aduto la wo gbe be nusi woɔ dzodzi eye nuyibɔ le enu la mega de to me o. Le sea dzi wawo ta la tsi la me miena o vassɛe 1978 esi seadzi wawo mega nɔ anyi o la tsi la mia ke. Mexɔe se.*<sup>49</sup>

**Appendix A27 (Matthew Agbator, Sokpoe-Bodzoɔ ife: Christian view of birthing rite)**

*Hɔtsotso enye be woatu alo abla amenɔ si naa nuɔu ɛevia le dada fe dome fe nu ale be ɛevia nyuto fe nu le efe ta nyuti la na vu hena eya nyuto fe nuɔu le eɔokui si le xexe yeye la me. Hɔka babla kple kayibɔe naa be ya mayi dome na ɛevia o.*<sup>50</sup>

**Appendix A28 (Kɔwu Yɔhokpɔ, Sogakofe: Primal view on urinating during birthing rite)**

*Aduɔ ɔɔɔ ɛe anyigbadzi fia be enu le kɔkɔe na anyigba si xɔe ɛe efe ata dzi abe vɔne ene.*<sup>51</sup>

**Appendix A29 (Martin Doade, Sokpoe: Primal view on birthing rite)**

*Woawo ya la ne ɛevia do go tso xɔ me la wotsɔ ne fia ye dzeɛe kple ye toɔɔfe. Eɛia gafɔfo alo yeyiyi si le agbe nu le xexea me; eye be ɛevi la na nya hã be nyɔkutsu fe ame du yi kple efe dzoyi le xexe sia me. Emegbe woatrɔ tsi ɛe xɔ ta me wɔa duɔ ɛe ɛevi la dzi. Esia hã ɔɔ nyku edzi ne be tsidza yi li eye tsidzadza foa ame le anyigba dzi.*<sup>52</sup>

<sup>45</sup> Daniel Agbota, interview at Sokpoe, 5 February 2016.

<sup>46</sup> Hajia Fatti Sanni, interview at Sogakofe, 20 April 2016.

<sup>47</sup> Abdullah Muhammad, (zongo sarechi), interview at Sogakofe, 5 April 2016

<sup>48</sup> Hajia Fatti Sanni, interview at Sogakofe, 14 April 2016.

<sup>49</sup> Alhaji Ali, interview at Dabala junction, 17 May 2016.

<sup>50</sup> Matthew Agbator, (DHCC), interview at Sokpoe-Vogome, 24 Feb 2016.

<sup>51</sup> Yɔhokpɔ, interview at Sogakofe, 17 February 2016.

<sup>52</sup> Martin Doade, interview at Sokpoe, 3 February 2016.

**Appendix A30 (Hajia Amina Awudu, Dabala: Islamic birthing rite outlined)**

*Gbesigbe wodzi vi la wo lea tsi ne nyuie be dzigbedi maga tsi enu o. Nyonuwo awo yurr...yurr...yurr zi eto, abe alesi wo wona na amariya be egbe edogo de amewo dome. Yurr desiaqe megbe la woyca qevia fe adagbe nka, nenye egbe Kudagbe wodzii la woa yce be Koku, de efe towo me. Esia gomee nye be qevia na le nka de tame eye wava de dzesi be yee woyca na nenema.*<sup>53</sup>

**Appendix A31 (Edward Klu Kattah, Sokpoe: Christian view of birthing rites)**

*Fufu konu aqeke mele Kristotowo si esi menya o. Deko wo doa gbe da adi lamese na funo kple via vasede vidzigbe.*<sup>54</sup>

**Appendix A32 (Matthew Agbattor, Sokpoe-Bodzofe: Christian view of birthing rites)**

*Htsotso enye be woatu alo abla amen si naa nuqu qevia le dada fe dome fe nu ale be qevia ntu fe nu le efe ta ntu la na vu hena eya ntu fe nuqu le edokui si le xexe yeye la me. Hka babla kple kayibce naa be ya mayi dome na qevia o.*<sup>55</sup>

**Appendix A33 (Rev Maxwell Adikpe, Mepe: Christian view of birthing rites)**

*Kristotowo mewo do do aqeke de esiawo nu o. Nye me xle le agbalde aqeke me kp h. Eyata le dewo me la alesi mie wo ne le desubsubo me ts hafi vazu Kristotowo la eya koe wo ga wona, le esi ame aqeke me tsitre de enu o ta.*<sup>56</sup>

**Appendix A34 (Robert Avenorgbo, Sokpoe: Christian view of birthing rites)**

*Dzilawo gblca na nunca be ne va tso qevia fia wo le wofe dekonu gomesese nu. Gake mi nunlawo ya sea egome be nka koe wo di be woava tso na qevia. Eyata nka tsots ta ko mie yi na do le Biblia fe dase didi tso Afeto Yesu dededego nu fe gomesese nu.*<sup>57</sup>

**Appendix A 35 (Daniel Agbota, Sokpoe: Christian view of primal eco-taboos)**

*Fifia la Kristo dzixwe wce be wna trawo me li o eye vide me le konuawo waw le aveawo me nu o. Le nyatefe me la enye mi Kristo dekakpui adewo fe didi be woa gba traveawo ne mia kp x tu fe. Nye ya me dze egome xoxo; me fle ktive fe akpade be matu x de gama.*<sup>58</sup>

**Appendix A36 (Adizza Garba, Sogakofe: Islamic view on ghost)**

*Doli la deko mese wo gblce, nye me kpce kp o. Gake alesi wo foa nu tso efe nuwonawo nui ta la mexe se be eli. Doli la dekonunu towo, menye awusatowo o, gblce be ne ameku la efe lwa fa abe amebagbe ene; edea edokui fia to gege de amebagbe ade me ana ame la nani nusiwo menyo o la wam. Menya be awusatowo ya mexese be noli li o hafi.*<sup>59</sup>

**Appendix 37 (James Cudjoe, Sokpoe: Culture of Sokpoe not limited by religion)**

*Konu waw la menye trsubola alo Kristotonyenye hia hafi woawce o. Nanewo li la alesi togbewo wce alo gblce daqi si fia be Sokpoetowo mienye la nenema ko woga le na mikata. Alesi woqoe ko la nenema ko wole. Efe trsubola nyenye kple Kristotonyenye me li o.*<sup>60</sup>

<sup>53</sup>Hajia Amina Awudu, interview at Dabala, 25 May 2016.

<sup>54</sup>Edward Klu Kattah, interview at Sokpoe, 11 March 2016.

<sup>55</sup>Matthew Agbato, (DHCC), interview at Sokpoe-Vogome, 24 Feb 2016.

<sup>56</sup>Maxwell Adikpe, interview at Mepe, 2 June 2016.

<sup>57</sup>Robert Avenorgbo, interview at Sokpoe, 13 March 2016

<sup>58</sup>Daniel Agbota, interview at Sokpoe, 5 February 2016.

<sup>59</sup>Adizza Garba, interview at Sogakofe, 12 April 2016.

<sup>60</sup>James Cudjoe, interview at Sokpoe, 26 June 2016.

## APPENDIX B 1

### ENVIRONMENTAL SCIENCE (GNSP 101) CURRICULUM, OKWAHU CAMPUS, November 2003

COURSE INSTRUCTOR: Prof. K. Sraku-Lartey (Ph.D)

#### **1. Introduction**

What is Environmental Science? Key words to note

#### **2. Concepts of the environment**

Definition of the environment

The physical systems in the environment

#### **3. Ecology and the environment**

Ecology

Ecosystems

Trophic levels within an ecosystem

Bioconcentration

Biodiversity

#### **4. Natural resources**

Definition of a resource

Dynamism in resource definition

#### **5. Resource types**

#### **6. Stock (non-renewable) resources**

#### **7. Flow (renewable) resources**

#### **8. Measures of resource availability**

Non-renewable resources (stock)

Renewable resource (flow)

#### **9. The Natural Resources of Ghana**

Minerals/Fossil fuels

Forest

Land

Soil

Animals/Wildlife

Water

Fishery

Wind, Air and the ozone layer

Waves and Tides

Solar energy

#### **10. Water quality and pollution**

What is water?

Uses of water

Water pollution and its effects

Water pollution control

#### **11. Air Pollution**

Composition of air

Uses of air

Natural Sources of air pollution

Human-caused air pollution

Conventional pollutants

Effects of air pollution

Air pollution Control

#### **12. International Conventions and Protocols**

## APPENDIX B 2

### ENVIRONMENTAL SCIENCE (GNSP 101) CURRICULUM, OKWAHU CAMPUS, (2009/2010)

Lecturer: Rev. E. Y. Blasu; Peer Reviewer: Prof. K Sraku-Lrtey

**Course Code Number:** GNSP 101 **Course Duration:** One Semester **Credit Hours:** 2

#### Course Objective

- (5) To expose students to the underlying scientific principles, concepts and methodologies required to:
  - understand the constituents of and interrelationships in the natural world around man,
  - identify and analyse environmental problems/risks due to both natural and human factors,
  - examine alternative solutions and/or preventive measures to environmental problems/risks for sustainable development.
- (6) To equip students with basic tools to consciously appreciate environmental issues as they relate to human livelihood and survival, and so be urged to adopt appropriate attitudinal changes thereto.

#### Course content

Environmental science is interdisciplinary; it embraces a wide variety of topics from different areas of study. Yet there are several major unifying constructs, or themes, that cut across the many topics included in the study of environmental science. The following themes provide a foundation for the structure of the GNSP 101 Environmental Science course.

#### II. Environmental Science: Definition

- Understanding Science as a process and method of learning more about the world; and the fact that Science constantly changes the way we understand and relate with the world.
- Definition of the human environment (surrounding): its spatial extent (biosphere) and elements (natural and man-made).
- Importance of environmental studies; environmental concerns as divine demand and principle for sustainable human development. [Next to Godliness is cleanliness].

#### III. Ecology and ecosystems

- Ecology and ecosystem explained; the earth as one interconnected system; biosphere as human habitat with complex inter-linkages of ecosystems and processes.
- Ecosystem structure and function; energy and its operational laws in ecosystem
- Equilibrium and sustainability of ecosystem, biogeochemical systems have varying abilities to recover from disturbances.

#### IV. The resources in the human environment

- Definitions of environmental and natural resources in general.
- Natural systems (or resources) change over time and space; renewable and non-renewable resources measurements.
- Environmental and natural resources of Ghana: their locations, level of development and exploitation, measurement, economic value/uses etc.

#### V. Human Impact on the Environment: problems and management

- Factors affecting the rate and scale of human impact on the environment.

- Types of environmental problems due to human activities: health, air, water, ethical, aesthetic etc.
- Managing human impact on the environment: developing sustainable practices; combine conservation and development principles, including divine allusions; commitment to international conventions and indigenous cultural prescriptions such as taboos and progressive Christian tenets on environment etc.

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4. Ewer D. W. And Hall J. B. eds. (1972) Ecological Biology. Longman, Lond.
5. Odum E. P. (1967) Fundamentals of Ecology, 2<sup>nd</sup> ed. Saunders Co. USA
6. The Holy Bible

### APPENDIX B 3

#### ENVIRONMENTAL SCIENCE (GNSP 101) CURRICULUM, AKUAPEM CAMPUS, (For Rural and Community Development Students), September 2010

**Goal:** Contribute to social and environmental improvement through service learning

**Objectives:**

- To understand and define terminologies commonly used in environmental science
- To describe global, regional, and landscape scale environmental processes and systems
- To understand the adverse human impacts on biotic communities, soil, water, and air quality and sustainable ways to mitigate these impacts

**Content:** Concepts of the environment, ecology and the environment, Natural resources of Ghana, water quality and pollution, air Pollution, International conventions and protocols, hydrological cycles, the food web, nutrient cycling, carbon sequestration and other such processes into functional ecosystems, concept of renewable and non-renewable resources, environment and resource endowments from a global perspective, mitigation of human impacts

**Reading List**

- Cunningham and Saigo: Environmental Science-A Global Concern, 6<sup>th</sup> Ed. 2001, McGraw-Hill.
- Odum, E. P: Ecology, 2 Ed., 1975, Lon.
- Olaniyan, C. I. O: An Introduction to West African Animal Ecology, 2<sup>nd</sup> Ed., 1975, Ibadan.

## APPENDIX B 4:

### ENVIRONMENTAL AND NATURAL RESOURCES MANAGEMENTPROGRAMME- 2014

#### Programme Title

BSc. Environmental and Natural Resources Management

#### Aims and Objectives of the programme

The programme has the following objectives:

1. To provide a wide range of courses in Environmental and Natural Resources Management necessary for a sound intellectual foundation in the understanding of environmental issues.
2. To develop the abilities of students to critically analyse, plan and positively influence management of the environment and natural resources in very practical ways in a wide range of institutions or establishments.
3. To teach the students methods of independent inquiry and to provide the stimulus for continuing education.
4. To equip students with the relevant skills required for employment within governmental or non-governmental organisations that have statutory involvement in the environment.
5. To develop manpower imbued with sense of discipline and alive to the responsibilities in the society they operate in.

#### COURSE STRUCTURE

The credit system for this programme is based on the Presbyterian University College norms and standards. The outline of the programme and the semester-by-semester layout of courses showing credit hours are presented below.

#### YEAR 1

#### SEMESTER I

<u>Course code</u>	<u>Course title</u>	<u>Credit hours</u>
ERMP 101	The biosphere and natural resources	3
ERMP 103	Human population and settlements	3
ERMP 105	Fundamental techniques and methods of Geographical mapping	3
ERMP 107	Climatology	3
ICTP 107	Computer Application Skills I	2
GNSP 103	French I	2
GNSP 105	Academic writing I	3
GNSP 107	Religion and Culture of Ghana	1
		<b>20</b>



<b>YEAR 1</b>		<b>SEMESTER II</b>	
ERMP 102			
ERMP 104	Ecosystem Analysis and Applications		3
ERMP 106	Introduction to Ecology and natural resources of Ghana		3
ICTP 108	Computer Application Skills II		2
GNSP 102	Critical thinking and Practical Reasoning		3
GNSP 104	French II		2
GNSP 106	Academic writing II		3
GNSP 108	Introduction to Entrepreneurship		
			<b>18</b>
<b>YEAR 2</b>		<b>SEMESTER I</b>	
ERMP 201	General Biology and Chemistry		3
ERMP 203	Soil Science		3
ERMP 205	Basic theories of environmental & resource Management		3
ERMP 207	Introduction to Mathematics		3
ERMP 209	Morphology and Anatomy of plants		3
ICTP 209	Computer Application Skills III		1
GNSP 201	French III		1
GNSP 203	Introduction to Literature		3
			<b>20</b>
<b>YEAR 2</b>		<b>SEMESTER II</b>	
ERMP 206	Environmental and Natural resources economics		3
ERMP 208	Urban Planning and Environmental Management		3
ERMP 210	Research Methods I		3
ERMP 212	Long Vacation Internship		3
ICTP 210	Computer Application Skills IV		1
GNSP 202	French IV		1
GNSP 204	Understanding Human Society		3
GNSP 206	African Studies		3

<b>YEAR 3</b>		<b>SEMESTER I</b>	
ERMP 301	Resource tenure and Environmental Law		3
ERMP 303	Forest Management		3
ERMP 305	Remote sensing and geographic information systems		3
ERMP 307	Research Methods II (Data Processing)		3
ERMP 309	Plant Molecular Biology and Chemistry		3
BBAP 311	Management Information Systems		3
<i>Electives</i>			
<i>Environmental Management</i>			
ERMP 311	Public Health and Hygiene Education		3
ERMP 313	Environmental Microbiology		3
<i>Forestry and Wildlife</i>			
ERMP 303	Forestry Management		3
ERMP 309	Plant Molecular Biology and Chemistry		3
			<b>18</b>
<b>YEAR 3</b>		<b>SEMESTER II</b>	
ERMP 302	Mineral Resources management		3
ERMP 304	Integrated Water resources management		3
ERMP 306	Long Vacation Internship		3
ERMP 308	Rural Sociology and Extension Education		3
ERMP 326	Climate Change and Adaptation Management		3
	Elective I		3
	Elective II		3
			<b>21</b>
<i>Electives</i>			
<i>Environmental management</i>			
ERMP 310	Energy resources management		3
ERMP 312	Landscape aesthetics management		3
ERMP 314	Air, soil and water quality monitoring		3
ERMP 316	Solid Waste Engineering & Environmental Health		3
<i>Forestry and Wildlife management</i>			

ERMP 322	Forest Resources Management and Utilization	3
ERMP 324	Pests & Diseases in Forests	3
ERMP 320	Applied Silviculture	3
<b>YEAR 4</b>	<b>SEMESTER I</b>	
ERMP 401	Managing Resource Conflicts	3
ERMP 403	Environmental & Social Impact assessment	3
ERMP 407	Business Management And Administration For Environmental and Resource Managers	3
ERMP 417	Project Work 1	3
	Elective I	3
	Elective II	3
		<b>18</b>

*Electives*

*Environmental management*

ERMP 413	Occupational Health, Safety & Hygiene	3
ERMP 419	Environmental Health Sampling	3
ERMP 421	Environmental Risk Assessment	3
ERMP 405	River Basin Management & Administration	3

*Forest and wildlife management*

ERMP 409	Wildlife Habitat Management	3
ERMP 415	Biology of Invasive Plants	3
ERMP 423	Forest and wildlife management	3

**YEAR 4 SEMESTER II**

ERMP 402	Environmental Reclamation and Rehabilitation	3
ERMP 404	Environmental policy analysis	3
RCDP 402	Gender and Development	3
ERMP 418	Project Work II	3
	Elective III	3
	Elective IV	3

***Electives****Environment management*

ERMP 408	Modelling in environmental and resource management	3
ERMP 410	Waste processing and Wastewater Management	3
ERMP 414	Environmental Risk assessment	3
ERMP 416	Hydrology & Hydrogeology	3

*Forestry and Wildlife management*

ERMP 406	Wildlife population ecology and Management	3
ERMP 412	Forest assessment and Resource Allocation	3
ERMP 420	Agroforestry	3
RCDP 414	Climate Change and Development	3

## APPENDIX C

### SUGGESTED BIBLIOGRAPHY FOR THE PROPOSED AFRICAN THEOCLOGY CURRICULUM WITH REASONS

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