

# Indigeneous Knowledge and Ecological Orientation for Teacher Training Institutions in Ghana: An Appraisal

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**Abstract:- A non-ecological form of living which does not take the rest of creation seriously in any positive manner, does not just destroy nature but precisely destroy nature by gradually eliminating human existence from the planet earth. In Ghana, such elimination has been so rapid that if corrective measures are not taken, there may soon be only a few Ghanaians left in Ghana. This paper attempts to provide an ecological pedagogy for teacher training institutions to create and nurture both environmental concerns and ecological orientation in students. Using qualitative approach, the study realises that the current educational system seems not to be ecologically inclined. The study seeks to propose that indigenous education should focus on teaching indigenous knowledge, models, methods and content within formal or non-formal education system and should be incorporated into current teacher training institutions with ecological framework. This paper is a contribution to the development of a viable ecological framework using indigenous knowledge values.**

**Keywords:-** Orientation, Pedagogy, Framework, Values, Curriculum, Worldview, Intrinsic, Spirituality, Biodiversity, Indigenous People.

## I. INTRODUCTION

It is very important that the current educational reforms develop ecological pedagogy for teacher training institutions to create and nurture environmental concerns and ecological orientation in Ghanaian students. To be, is to be in an environment and therefore, no education is deemed proper without an ecological framework and orientation. Ghana's ecological crisis shows itself in many ways. Firstly, human activities that have affected the biophysical environment which has served as the life support system resulting in bush fires, clearing of watersheds, sand and stone winning, poor farming methods, land degradation and soil erosion. Secondly, deforestation resulting from timber exploitation, fire wood extraction, shifting cultivation and bushfires. Thirdly, surface mining as human activities devastates the land, causing soil erosion, environmental degradation and destroys water and air quality of a place (Ghana State of the Environment Report, 2004:25) Lastly, environmental pollution introduces unacceptable substance in quantities that are too great for nature to bear into the physical and natural environment resulting in damaging and reducing the quality of the environment.

This paper focuses on environmental concerns and ecological orientation to guide human activities that create environmental wholeness in teacher training institution in Ghana. Further, it explores the indigenous ecological knowledge values that stakeholder could use to reconstruct indigenous ecological orientation in academic institutions. Recommendations are made on ways by which, indigenous philosophy could be tapped to create an environmental concerns and ecological orientation that, could further restore environmental wholeness, biodiversity and clean environment.

## II. MATERIALS AND METHODS

This study is qualitative in nature. This method facilitated a close interaction with respondents and also enables one to observe the social life of a group in its natural setting. By this method, purposive sampling was used to outsource data for the interpretation and analysis of the work. This study used both fieldwork and secondary data. The fieldwork comprised of one-on-one interviews, participant-observation, and focused group discussions. Some keys study participants included; Teachers, students, forest reserved officers, traditional leaders (chiefs) and some religious functionaries. On the secondary data, published books, unpublished scholarly works, article in journals, reports and the internet sources were used. The study was conducted in Akyem Abuakwa area in the Eastern Region of Ghana, specifically; Kibi, Nsutam, Asiakwa, Bunso and Begoro. In this five (5) study areas, three Senior High Schools (SHS) were visited namely; Abuakwa State college at Kibi, St. Stephen Secondary & Technical School at Asiakwa and Nsutam Secondary & Technical Schools. The authors also visited Bunsoeco-tourism Park. Descriptive mode of analysis was employed.

## III. CONCEPTUAL FRAMEWORK

Two concepts namely indigenous knowledge and Ecological Orientation underpins this study. Indigenous Knowledge is an accumulation of experiences, observation, and interactions, acquired through associations, participation of activities, and service, mentoring, asking questions and receiving answer by indigenous people (Opuni-Frimpong, 2012:241-242). It explores how Africans in their own tradition could solve the problems of environmental degradation, ecological crisis and also establish environmental ethics rooted in African traditional religion

and culture (Ongong'a, 2003:62). Indigenous Knowledge holds that nature is the root, the background and framework for the individuals, universe are interconnected, and hence all are brother and sister (Urumwe, 2003:87). Indigenous Knowledge further creates respect for animals, forest, rock, mountains and rivers. It gives explanation as why certain places are revered and certain activities tabooed. Indigenous Knowledge further explains that natural phenomena have spirits that defined the relationship between humans and nature. Conservation values and ethics have grown out of the awareness that the natural resources are parts of that which ordinary humans do not have control. Consequently, the indigenous people do not temper with what they do not understand or control.

#### A. *Indigenous ecological Knowledge*

Indigenous ecological knowledge gives human wisdom, instructions, inspiration and guidance for every aspect of life as regards to human's relationship with each other and the non-human creation. It teaches people ecological wisdom and discipline to help people do what is right, just and fair and to give insight to the simple, knowledge and discernment to the young people. A new ecological curriculum is advocated for the teaching and learning in teacher training schools to equip the new generation of learners.

The purpose of indigenous ecological Knowledge is to produce an enlightened and knowledgeable individual who are able to survive in their natural surroundings, so as to be able to be productive and helpful with activities taking place in their society. That, the individual creates a healthy balance between the various physical, chemical, and biological cycles responsible for the contribution to life sustenance of the biophysical environment (Asiedu-Amoako, 2020:28).

#### ➤ *Features of Indigenous Ecological Knowledge*

Firstly, indigenous ecological knowledge upholds a sacred view of nature which permeates its foundational process of teaching and learning. Secondly, integration and interconnectedness should be observed as its universal traits, context and process. Thirdly, Mother Earth is a finite one so human progress must consider its effect on nature. Fourthly, its code and precepts are written in the hearts of the people and are preserved through myths, legends, songs and language of the people. And lastly, Land is conceived as belonging to a vast family of whom many are dead, a few are living and countless hosts are still unborn (Benneh, 1990:4).

#### ➤ *Indigenous Ecological Knowledge and Pedagogy*

The curriculum helps students envision how indigenous histories, perspectives, worldviews and approaches to teaching and learning can be made part and parcel of the work they do in the classroom, organizations, communities and our everyday experiences in ways that are thoughtful and educative.

Secondly the curriculum should emphasize changing institutional structures, practices and policies, as well as personal and professional ideologies to create environment that one is committed to strengthening our relationship with indigenous framework.

Thirdly, there should be pedagogies to transmit indigenous knowledge on ecology and environment to younger generation.

Fourthly, these timeless pedagogies engage learning processes and practices that can be used in the classroom by integrating indigenous ecological knowledge perspective.

Fifthly, Learning, teaching, assessment and practice that are reflective to students' socio-cultural identities which employ thought forms in which the non-human environment play a larger role.

Lastly, key component of indigenous ecological education should include the building and nurturing indigenous knowledge and capacity, teachings that reflect formal and informal modes, assessment and cultural resources as viable alternative to address the environmental challenges of our time and engaging communities and indigenous institutions to formulate theology of creation that is interdisciplinary, responsible and humane, a theology that is heavily based on indigenous religious insights that has ecological framework (Gecaga, 2003:37).

#### B. *Ecological Orientation*

Ecological orientation as a mind-set has ecological framework. It is a person's attitude towards his or her environment. Ruether notes that ecological orientation is to convert human consciousness to the earth so that we can use our minds to understand the web of life and to live in that web of life as sustainers (Ruether, 1996:6). Ecological orientation also implies that members of the earth community share the necessities of life with others, both humans and other life forms (McFague, 2000:4). Ecological orientation for Teacher Training institutions focusses on the following :

- Calls for justice for the non-human creation
- The need to turn to the earth, respecting it and caring for it in our local ordinary mundane ways.
- A call for ecological literacy, meaning that we learn how the planet works.
- Human well-being and nature's health are intrinsically connected.
- A profound inter- relationship and interdependence between God, humanity and the cosmos.

#### IV. STATUS OF ENVIRONMENTAL AND ECOLOGICAL EDUCATION IN SCHOOLS AND TRAINING COLLEGES IN GHANA

Modern trends globally indicate that no sustained growth can be achieved if the rapid deterioration of both the environment and the ecology is not stamped out and the degradation processes reversed. Local, regional and international efforts should be directed towards environmental protection and ecological conservation. Environmental and ecological framework should be the hub of all activities in environmental protection, ecological conservation and sustainability for development.

The main objective of environmental and ecological education and orientation is the creation of environmental concerns and ecological orientation and consciousness among people which is necessary for reversing the processes of environmental degradation and ecological crisis. Through environmental education and ecological orientation in schools and colleges, students learn how nature works. That is, students learn to have better understanding of and insight into environmental problems such as pollution, bush fires, deforestation and how human activities have negatively affected the biophysical environment which has served as the life support system. Students are equipped with environmental concerns, ecological orientation, knowledge and skills in environmental protection and ecological sustainability.

The Ghanaian people can help maintain and increase the productive capacity of the environment. School and college activities should be design to develop environmental concerns, ecological orientation, develop awareness, attitudes and behaviour necessary for the protection of the environment. The contention of this paper is that any education that neglects the non-human environment is dangerously disastrous. This is because the non-human environment occupies a major portion of both the life and thought of the majority of Ghanaians. The non-human environment pervades their symbolic thoughts and actually their worldviews are constituted by it (Mante, 2004:4).

##### *A. Schools and Colleges Environmental Education: Evidence from Field of Study*

In Ghana, the Government's attempt to put environmental issues on the priority list began as far back as 1974 with the setting up of the Environmental Protection Council (EPC)<sup>1</sup>. It has championed various environmental causes, the latest of which is the development of Environmental Action Plan (E.A.P) to address the key issues relating to the protection of the environment and better management of resources. Environmental Education at formal, non-formal levels forms one of the major components of the Environmental Action Plan. Attitudes towards the environment are generally acquired early in life at the time of schooling. Hence there is the need to make Environmental Education an integral part of the school and

college curriculum. For this reason, the Ministry of Education (M.O.E) in collaboration with E.P.A prepared environment related themes which were integrated into the school curriculum as part of the educational reform programme. The themes were integrated into the relevant subjects of the curriculum such as Social Studies, General Science, Agricultural Science, Life Skills and Vocational Skills.

However, though the environment related themes have been integrated into the curriculum, there is no consistent, comprehensive and coherent teaching/ learning strategy supported by materials for environmental education in the country. To provide effective formal environmental education and ecological orientation as envisaged in the Environmental Action Plan, appropriate teaching / learning strategies and corresponding materials for students, teachers, stakeholders should be provided. This paper provides research data on indigenous resources for addressing these needs.

##### *B. Teaching / Learning of Environmental Education*

Environmental Education is expected to be done through activities carefully and systematically designed to develop among people the awareness, attitudes and behaviours that enhance harmony in the environment. Field work has revealed that schools and colleges are using different methods in the teaching and learning of Environmental and Ecological Education. The methods vary from the lecture methods where teacher and student handle Environment Education as an academic exercise to real practical activities directed at solving environmental problems, promoting sanitation and ecological balance within the school environment. The methods used in the teaching/ learning of Environmental Education in the schools and colleges can be categorized as follows:

- The didactic / lecture method.
- The co- curricular activity method and
- The project work approach.

##### *➤ The Didactic / Lecture Method*

A didactic method is a teaching method that follows a consistent scientific approach or educational style to engage the student's mind. The theory of didactic learning methods focusses on the base line knowledge students possess and seek to improve upon and convey this information. In using the didactic method, the teacher simply gives knowledge and information on environmental issues and themes as specified in the subject syllabus of the students to imbibe. The method does not emphasize the development of practical, creative and manipulative skills and techniques which are necessary for environmental protection, conservation and sustainability. However, this approach is predominantly used at the transition levels of the education system. In other words, it is mainly used towards the end of Junior High School, Senior High School and Teacher Training. It is mostly used for preparing students for final external examinations, in line with the demands of these examinations.

<sup>1</sup> Survey On the State of Environmental Education in Ghanaian Schools (Accra:EPA,1996):1-2.

This method is not the appropriate and effective one for the teaching/learning of Environmental and Ecological Education. At Abuakwa State College and Nsutam Senior Secondary and Technical School in the Eastern region of Ghana, eighty percent of the teachers interviewed, confirmed that when Environmental Education is done through practical activities and projects, students' participation is very high, meaningful and productive. Practical activities motivate and sustain students' interest in learning. Again, sixty percent of the teachers admitted, however, that when students are preparing for final external examinations, they show more interest in getting knowledge and information that enable them to pass the pen and paper tests.

#### ➤ *The Co-Curricular Activity Method*

The Co-curricular activity method involves the formation of school/ college clubs or societies either by the school administration, teachers, or through the initiative of student leaders and prefects. These clubs/ societies promote the learning and practice of Environmental Education and students are encouraged to join and become active members of the clubs and societies. In Ghana today, many of the schools and colleges have clubs and societies such as:

- Friends of Earth Club or Environmental Club
- Wild-life Society
- Farmers Club
- Nature Club

In Abuakwa State College, there is a thriving Environmental Club that is working hard to create eco-balance in its catchment area. The same can be said about Nsutam Secondary/Technical School that has Friends of the Earth Club. Schools and Colleges have teachers as patrons. Student members of each club democratically elect their leaders who plan and manage their activities. The leaders of each club manage affairs of the group in consultation with their patrons who in turn report to the school administration. Clubs embark on eco-tourism to Bunso Eco Park at Bunso in the Eastern region of Ghana and the Monkey Sanctuary at BuabenFiema in the Bono East region of Ghana.

Both Abuakwa State College and Saint Stephen Secondary Technical School, Asiakwa, have actualized Environmental Education. The Environmental Clubs use student –to student and student –to-patron methods of teaching/ learning to actualize Environmental Education. Through students' initiatives, the clubs have initiated activities directed towards finding solutions to environmental problems such as erosion, poor sanitation, bush fires and deforestation. Indeed, these schools have greened their compounds by planting fast growing trees and grass to check erosion. Students and Teachers have developed environmental concerns and ecological orientation such that no person walks on the grass to create unwanted paths on the green grass. Again, these schools have produced seedlings of various plants for the development of ornamentals, woodlots and plantations. Saint Stephen Secondary Technical School has harvested its Teak trees twice for construction. The teak trees at the

school compound serve as wind –breakers and huge canopy for student and teachers.

#### ➤ *The Project Work Approach*

The project work approach is usually planned and controlled by teachers. Projects on environmental topics/ themes are designed by the teachers for the students to do either individually or groups. The students present written or verbal report on the projects for the teachers to assess and grade. The projects range from observation on how human activities impinge on the environment to other practical activities directed towards environmental protection and conservation.

### V. INTEGRATION OF ENVIRONMENTAL THEMES IN THE SYLLABUSES OF SCHOOLS AND COLLEGES OF EDUCATION

The existing curriculum should be audited by school authorities to see if it confirms that most of the environmental themes in the Environmental Action Plan (E.A. P) have been integrated into the curriculum of the various levels of education namely, primary, junior high school, senior high school and training colleges. Environmental Education has to be incorporated into the syllabuses in the form of themes. While some of the themes are direct environmental themes, others are related or allied. In the Basic Schools for example, the majority of the environmental and allied themes are incorporated in Social Studies, Life Skills, Agricultural Science and General Science.

Proper Environmental Education is the development of environmental concerns, ecological orientation, environmental awareness, attitudes and positive environmental behaviours. All activities carefully and systematically designed to develop these values in the individual amount to Environmental Education. This education may be formal, non-formal and in-formal. Attitudes towards the environment are generally acquired early in life at the time of schooling. Therefore, there is the need to make Environmental Education an integral part of the school curriculum. Environmental problems of any community are products of the interplay of behaviours and values of the members of the community. The intractable environmental problems are the consequence of the manipulation of the environment by man for the exploitation of its resources.

#### A. *Rethinking Worldviews, Ethics and Environmental Education*

Environmental Education and Orientation should go beyond our immediate surroundings because environmental issues are complex and global in nature. Its complexity and scope is not only the result of certain economic, political, and social factors but it is also a moral and spiritual crisis which requires philosophical and religious understanding of ourselves as creatures of nature, embedded in life cycles and dependent on ecosystems (Hessel and Ruether, 2000: xvi). Religion helps to shape our attitudes towards nature in both conscious and unconscious ways. Religion establishes how



we should treat other humans and how we should relate the non-human creation. Such values make up the ethical orientation of society.

Lynn White quoted in Hessel and Ruether (2000) notes that what people do about their ecology depends on what they think about themselves in relation to things around them. According to the author, human ecology is deeply conditioned by beliefs about their nature and destiny—that is, by religion (Hessel and Ruether, 2000: xvi). The schools and colleges Environmental curriculum and syllabuses should give re-orientation to teachers and students in relation to the earth. The expected results should be environmental concerns, ecological orientation and consciousness leading to the need to relate fruitfully to the earth and its myriad life-forms (Hessel and Ruether, 2000: xiii).

#### *B. Environmental, Ecological Education (Curriculum) and Theocentric Paradigm*

The notion of environmental concerns, ecological orientation and sustainable environment sit well at the heart of this discourse. Theocentric spirituality recognizes the importance of living in harmony with God, others and nature. It also involves being obedient to God's law or principles of the universe. It means being in spiritually in tune with the Creator, thinking as He thinks, seeing as He sees, acting as He wills, loving as He loves and appreciating all that He has made. Such spirituality certainly will change human attitudes towards nature and develop environmental concerns and ecological orientation towards environmental sustainability. Environmental Education curriculum should have a theocentric and eco theological framework which recognizes the importance of living in harmony with God, others and nature.

#### *C. The Environment and Environmental Education in Contemporary Times*

Chris Park defines the environment as “all the external abiotic and biotic factors, conditions, and influences that affect the life, development and survival of an organism or a community. He explains that the environment is the natural world in which we live (Park, 2001:149). So any education that fails to take due cognizance of the environment, with the view to providing the necessary information about it to its beneficiaries, is incomplete and therefore defective. Unfortunately, this is the type of education that the vast majority of Ghanaians have received to the detriment of both the environment and the people (Faniran, 2012:101). Environmental education as defined by Park is formal and informal activities that are designed to promote people's understanding of, appreciation of, and care for the natural environment (Park, 2001:150).

The interest in the physical environment as an object of study has waned over the years. Environmental determinism is the view that was popular at the start of the 20th century, but is now regarded as too simplistic, that the most important control on human activities is the environment (Park, 150). In other words, the environment

was viewed as the determinant of human fate and affairs, and so deserves maximum attention.

However, emphasis was later shifted to the principle of human dominance which gave birth to anthropocentrism. From an anthropocentric theoretical point of view, therefore, humans have a moral duty only towards one another; any duty they seem to have towards other species is only an indirect duty towards other beings. Richard Young (1994) notes that anthropocentrism is a way of viewing reality that places humanity at the Centre. Everything in the universe is seen in terms of human values and human interest. Such theory is paradoxical: Firstly, concern for personal well-being and survival have raised ecological awareness to the level that many now question the anthropocentric basis for modern society. The motivating factor for change (self-preservation) and the source of the problem (self-centeredness) both stem from self-interest. Appealing to self-preservation, therefore, only accentuates self-centeredness and the root of the problem does not go away (Young, 1994:116). Secondly humanistic society still approaches environmental problems from an anthropocentric perspective despite knowing that this is ultimately self-destructive. Anthropocentrism seems to be entrenched in our society that there is an ingrained resistance against accepting the observation that the priority of humans on self is destructive (Young, 1994:117).

#### *D. Indigenous Resources for Environmental Education and Ecological Orientation*

There are resources in indigenous knowledge that can become a motivating and an inspiring force which can offer hope to resuscitate the degraded environment of our time. Exploring the indigenous ecological knowledge can provide rich, raw and insightful revelation that might not be reflected in some academic institutions. Indigenous people of Akyem Abuakwa speak about issues in their eco-social surroundings that reveal sound knowledge and conclusions that are insightful and grounded in sound knowledge, sound reasoning and practicalities. Let us explore indigenous knowledge to reconstruct indigenous ecological orientation that could be relevant in our time by critically examining the following:

- *Intrinsic value of nature (Land) And Ecological Orientation.*
- *Consequences of breaking Environmental Laws in Traditional setting.*
- *Indigenous philosophy of Ecological Orientation.*
- *Cosmological kinship with Nature.*
- *Intrinsic Value of Nature (Land) and Ecological Orientation*

Nature's value is not contingent on humans or any economic profit. But in indigenous spirituality, there seems to be a spiritual relationship between human and nature. Amba Oduyoye notes that as earth dwellers, our lives are in constant relationship with the Sun, the Moon and the Atmosphere around us. On earth, other being are our neighbours-plants, animals, mountains and rivers some too small for eyes to behold and others much larger than we are

(Oduyoye, 2002:46). Indigenous spirituality and knowledge do not make the human person the centre of all things.

Rather, the human person sees the plant, animals, mountains and rivers as true neighbours with constant interactions. One is not encouraged to abuse or take advantage over its neighbour. Such indigenous philosophy creates an environmental concerns and ecological orientation which could restore environmental wholeness, biodiversity and clean environment. One need to understand indigenous ethical values and beliefs that guide moral actions in African. Failure to appreciate this important point has led to little impact on the moral behaviour of the people. Again, failure to understand key elements that regulate African morality has led many foreigners to misinterpret African moral behaviour. Teacher training institutions should embed this indigenous philosophy into their curriculum to nurture environmental concerns and ecological orientation in students.

➤ *Consequences of breaking Environmental Laws in Traditional setting*

There are both physical and spiritual consequences for breaking traditional laws. Traditional societies have established structures to enforce environmental laws. Kudadjie notes that the social structures itself contributes a great deal both to the formulation of ethical ideas and the setting up of moral standards, as well as the actual enforcement of morality shared by the community (Kudajie, 1983:170).

One can identify the religious and social sanctions against those who cause ecological damages. Williamson has noted that in the olden times there were no policemen and women and no need of them. The gods were the policemen; in those days, the customs and traditional ways of life sanctioned by the Spirit-Ancestors and the gods provided the framework of the Akan ethical code (Williamson, 1955:108-109). By that the gods and the Spirit-Ancestors were the policemen that protected the family, land and property. In the Akyem Abuakwa traditional societies, the belief of the people about God and the various gods and divinities were invoked to enforce morality. No one has the right to sell land or destroy rivers or forests because they are legacies from the Ancestor who closely monitor how we use them. Any abuse of the land, the river, the forests and unwanted killing of animals and birds is likely to be met with punishment in the form of death, diseases like blindness, impotence and paralysis. Human beings are answerable to the line of ancestors for their stewardship over non-human part of creation and so create an environmental concerns and ecological orientation for the people. It is therefore, very important to nurture such thought in student to emphasize environmental awareness and concerns.

➤ *Indigenous Philosophy of Ecological Orientation*

Oteng-Yeboah has observed that traditional religious philosophy considers the belief, doctrinal, spiritual and worship system as tools in ensuring the harmony of life even before the issues of the biophysical resource, conservation and sustainable use came into play (Oteng-Yeboah, 2004:8).

He again noted that among the Akan people of Ghana, the philosophy has its foundation in the traditional concept of land ownership. Indigenous philosophy holds the view that the living (present day people) have an obligation towards their ancestors to ensure a proper stewardship of the land for the use of future generations.

It is generally believed among the Akan of Ghana that “land belongs to a vast family of whom many are dead, a few are living, and countless hosts are unborn” (Benneh attributed the statement to Nana Sir Ofori Atta, the late King of Akyem Abuakwa State). This concept of land shapes the perception of the people and by their close relationship with nature hold relevant attitudes towards nature, making themselves responsible care-takers of their environment. Indigenous people regard the earth as a Mother. Hence, Mother Earth is revered as the provider and sustainer of life. Oten-Yeboah further explained that this was the philosophy behind the offer of prayers in the form of libation before cultivation of the land and during harvesting (Oteng-Yeboah, 2004:8). Such indigenous philosophy creates environmental concerns and ecological orientation.

➤ *Cosmological kinship with nature*

The people with whom this study is associated (Akyem Abuakwa) demonstrate cosmological kinship with nature in the naming of their children. The people name their children after almost every natural phenomenon in their worldview, hence they have such Akan names as:

KwasiSono	- Kwasi the Elephant (Kwasi is sunday male born)
Yaw Ponko	- Yaw the Horse (Yaw, Thursday male born)
KwabenaOkore	- Kwabena the Eagle (Kwabena, Tuesday male born)
MirekuAboronoma	- The Dove
YaaBoo	- Yaa the Stone (Yaa, Thursday female born)
KwasiMframa	- Kwasi the Wind
Kwame Nyame	- Kwame God (Kwame, Saturday male born)
Yaw Ananse	- Yaw the spider
AmaOwuo	- AmaDeath (Ama, Saturday female born)

Naming children mainly after kith and kin and after natural and supernatural realities is a very strong expression of cosmological oneness. In indigenous spirituality, there seems to be a spiritual relation between mankind and nature. On earth, other beings are neighbours so one is not encouraged to abuse or take advantage over its neighbour. Cosmological kinship with nature registers environmental concerns and ecological orientation in people. This can be an educational model or framework for nurturing environmental concerns and ecological orientation to educate the people.

A poem that registers Environmental Concerns and Ecological Orientation:

AsaseYaa is a wonderful Earth; whether I am alive or dead,  
And when we die, we shall be buried in the Earth.

Whatever keeps us in existence is derived from the Earth,  
 The Earth gives us water that we drink to live;  
 The Earth produces the food without which we would be  
 dead.  
 The Earth furnishes us with the trees with which we build  
 our house,  
 We depend on the Earth to play;  
 To travel, to hunt, to perform our Rituals and ceremony  
 The Earth indeed is a Mother;  
 To us, her fertility is our live-wire

The above poem by Peter K. Sarpong (2000) has environmental concerns and ecological orientation. It shows a relationship that exists between all animate and inanimate forms. It points to the philosophy of interrelationship and harmony between human and nature. It also points to the philosophy of sustained environmental harmony between human and nature. The poem further shows a pro-active approach towards environmental consciousness and nature protection. Indigenous knowledge holds the Earth as a Mother par excellence.

## VI. CONCLUSION

Indigenous ecological knowledge provides ethical values, environmental concerns and ecological orientation that guide human activities that create environmental wholeness. It ensures that people live in a relationship of mutual obligation with nature and that human activities do not unnecessarily cause environmental abuse and destruction. Indigenous knowledge on sustainable environment and ecology is valuable and under-utilized resource and needs to be intensively and extensively studied and incorporated into formal research and extension practice in order to make rural development strategies more sustainable (Amlalo, et al: 1998: vii). It must be incorporated into the curriculum of Teacher Training institutions in Ghana to make teaching and learning ecological. In other words, the non-human environment should occupy a major portion of both the life and thought of the majority of Ghanaian students such that the non-human environment pervades all academic courses in our educational institutions; so as to have students who are environmentally concerned and ecologically orientated.

It seems to look like the current educational system is ecologically bankrupt. This paper suggests that the ecosystem or the non-human creation should be taken seriously in the educational reconstruction by stakeholders, otherwise, the Ghanaian educational system will lose its cutting-edge and become useless (Mante, 2004:4). To ignore the resources indigenous worldview can provide in our quest for environmental education and ecological orientation could be a great disservice to Ghanaian educational system. Therefore, there is the need for ecological and environmental motif that is all-embracing. This motive is indigenous resources which this paper has attempted to set out. It may not have all the answers, yet it offers a viable framework for Teacher Training Institution in Ghana.

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