AESTHETIC IMPACT OF GHANAIAN SOCIO-CULTURAL PRACTICES ON THE ENVIRONMENT AND ITS PROTECTION IN GHANA

AESTHETIC IMPACT OF GHANAIAN SOCIO-CULTURAL PRACTICES ON THE ENVIRONMENT AND ITS PROTECTION IN GHANA

By

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ABSTRACT

The environment and its protection are of absolute importance to the development of humanity, socially, culturally, economically and physically. However, due to inadequate aesthetic considerations of the environment, bad cultural practices, ineffective education through art, little integration of art into scientific applications and lack of pragmatic artistic policies by governments, the degradation of the environment is rapidly on the ascendancy.

In view of these, this research emphasizes the need to utilize aesthetic considerations and good socio-cultural practices to protect, beautify and conserve our natural as well as the built environments that will help improve the very livelihood of mankind.

By employing the qualitative methodology to address the problems identified the research shows by its analysis, presentation, arguments and suggestions that artistic attributes and acceptable cultural values are very important to Ghanaians in enhancing the beauty of the environment, as well as preserve everything that can be found in it, such as forests, rivers, mountains, buildings and so on.

This dissertation, however, is a valuable source of information and it is geared towards sensitizing other researchers, stakeholders, policy-makers, institutions,

environmentalists and tourism promotion managers to be fully aware of the aesthetic aspects of the environment.

The dissertation is presented in seven chapters. The first chapter, being the introductory chapter, deals with the problem and its statement. Chapter Two surveys the related literature on the subject under investigation while Chapter Three deals with an in-depth discussion on the relationship between indigenous aesthetics and the environment. Chapter Four, however, highlights on the methodology employed in the execution of the research. Chapters Five and Six form the findings of the dissertation and provide vivid discussions on the state of the environment as well as its aesthetic impact. These two chapters also present the results of the research. The thesis ends with the seventh chapter which deals with the discussions, conclusions and recommendations.

By these indications, this research hopes that if the suggestions and recommendations are well embraced in national policies, our eco-system could be effectively protected from further degradation.

CERTIFICATION

I hereby declare that this submission is my own work towards the PhD and that, to the best of my knowledge, it contains no material previously published by another person or material which has been accepted for the award of any other degree of the university, except where the due acknowledgement has been made in the text.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

What may be an attractive style to a retired teacher in Paga may be unsightly to a graduate student in Accra. This assumption is a major factor enough to resist making aesthetics central to the defense of the environment. However, aesthetic values of the natural environment are a significant motive for environmental protection. Whether it be the preservation of the wilderness areas, the protection of the rural countryside from sprawl, or protecting the neighbourhood tree, the need for environmental beauty is paramount. "A large part of why environmental degradation is so serious a problem is because it involves the destruction of things of substantial aesthetic value" (Hettinger, 2005). The aesthetic quality of a community is composed of visual resources; that is, those physical features that make up the visible landscape, including land, water, vegetation and man-made features (i.e., buildings, roadways and structures).

The National Environmental Policy Act of 1969 (NEPA) requires Federal agencies to take into consideration the effects of proposed Federal actions on the human environment. The Council on Environmental Quality (CEQ) regulations

identifies aesthetics as one of the factors in the human environment which must be considered in determining the effects of a Federal action. Title 23 U.S.C. 109(h) and Technical Advisory T 6640.8A cite the aesthetic effect of the proposed project as a matter which must be fully considered in the preparation of environmental documents (NEPA Act, 1969).

UNEP's *Global Environment Outlook 2000* shows that environmental problems rarely disappear. As human activities continue to grow, old problems re-emerge and new ones appear. They require continuous monitoring, an increasing capacity for farsighted and integrated understanding and commitment to sustainable development. Moreover, as the human population grows, the trade-offs between the environment and economic growths are likely to become sharper and clearer. Although what happens to the environment may be the most important long-term social problem, it is rarely the most urgent one. Issues of national security, jobs and incomes remain at the top of policy agendas. In contrast, clear environmental threats that compel action are rare, making the challenge of effective and timely response all the greater.

In view of this, it is important to consider thoroughly, polices that promote visual quality of highways and the environment as a whole (i.e., highway landscaping, wildflowers, scenic strips and overlooks, scenic highways, preservation of parks and historic places, rest areas which may accommodate

sculpture and other original art forms, junkyard screening and control, outdoor advertising control and joint development facilities on the highway right-of-way).

In effect, if wilderness, the rural countryside, and the trees found in our neighbourhood were of low aesthetic value (or of negative value), both the practice of – and justification for – environmental protection would be seriously weakened. Analysing the porous reason that beauty is in the eye of the beholder would be based on the fact that aesthetic responses are significantly relative. However, if judgments of aesthetics are based on objective grounding, they would seem to be a poor basis for justifying environmental protection.

Some researchers purport that the natural environment was a neutral background for the context of human development; and in situations where this has brought development aspirations into conflict with the requirements to protect the natural environment, then the latter has been most frequently regarded as being counter development (Smith, 1985; Mowle, 1986; Smout, 1991).

Unequivocally, there is a growing global consensus that the environmental harm caused by some is a threat to all (2000 Annual Report: UNEP). An increasing number of people understand the interrelationship between environment, national security and economics. Since Rio, the global community has shown

what is possible when the nations of the world work together. The update of the Intergovernmental Panel on Climate Change concludes not only that human activity is contributing substantially to the warming of the planet, but that the warming over the next century could turn out to be much worse than previously estimated. It is expected that the average global temperature over the next century will be between 3 and 11 degrees Celsius. A three-digit warming over the course of the century would probably be the fastest warming in the history of civilization.

According to the Annual Report, this is not a disaster waiting to happen. It is already underway. The decade of the 1990s was the hottest of the last millennium. And 1998 – which raised temperatures through the El Niňo phenomenon – appears to have been the hottest year ever recorded. Global warming is not an abstraction. It is an accelerating crisis that poses a grave threat to the younger generation around the world. Witness the devastating floods in parts of Europe, Mozambique, China, the forest fires in the United States and the continuing drought in many parts of the world. An environmental catastrophe is not a single event. It is the result of a process of events, the effects of which impact the hardest on a population which is already vulnerable. Aside from these problems, there were other environmental issues that captured international headlines: the cyanide spill in Romania, the effects of war on the

environment in the Balkans and in Africa, and the issue of biosafety and health, for example the spreading incidence of 'mad cow' and bird flu diseases.

Environment is an overworked word that means the totality of things that, in any way, affect an organism (Fellman, Gettis, Gettis, 2005). Humans exist within a natural environment – the sum total of the physical world – that they have modified by their individual and collective actions. Those actions include clearing forests, plowing grasslands, building dams, and constructing cities. On the natural environment, then, we have erected our cultural environment, modifying, altering, or destroying the conditions of nature that existed before human impact was expressed.

Every nation pays particular attention to its development. However, these developmental activities are mainly geared towards the attainment of economic prosperity to the unfortunate neglect of the environment. As a result, the deliberate effort to make a remarkable achievement in growth, developing nations focus much attention on the exploitation and export of natural resources such as timber and minerals with little consideration for the environment (Twerefoo,1996). Moreover, as Ghana's population grows at a rate of 2.7%[2], there is the urgent need to protect the environment from further destruction. Even though there is a call on Ghanaians to abate this phenomenon, much needs to be

done (Daily Graphic # 149242 of 31st December, 2005 and # 149526 of 28th December, 2005).

Many of the most seriously threatened species and ecosystems of the world are in the developing countries, as evident in the savanna coastal area of Accra in particular, and Ghana as a whole. This situation concerns us all because these countries are the guardians of biological resources that may be vital to all mankind. Unfortunately, where political and economic systems fail to provide people with land, jobs, and food, disenfranchised citizens turn to legally protected lands, plants, and animals for their needs. Immediate human survival always takes precedence over long-term environmental goals. Clearly, the struggle to save species and unique ecosystems cannot be divorced from the broader struggle to achieve a new world order in which the basic needs of all are met. People in some developing countries are beginning to realize that the biological richness of the environment may be their most valuable resource and that its preservation is vital for sustainable development.

Solid waste management and irresponsible use of natural and material resources constitute a serious problem in Ghana and many other developing countries. Solid waste generally includes domestic refuse and non-hazardous wastes such as commercial and institutional wastes, street sweeping, and construction debris. Solid waste not only looks unsightly, but poor sanitation also leads to public

health problems such as increased incidence of diarrhoeal diseases, cholera, typhoid, hepatitis and malaria. Some of the underlying factors of this social problem stem from people's attitudes, mindset, beliefs, and behaviours. Others are the growing urban population, changing patterns of production and consumption, and industrialization. Although the Government of Ghana has established many legislative instruments to deal with wastes, there has been little visible improvement to date due to the absence of pragmatic environmental aesthetic policies. Government alone cannot solve the problem, and it must be a shared responsibility of all Ghanaians.

Taking a keen look at the policies of most of these developing nations, it is obvious that there is a gross lack of environmental considerations, especially environmental aesthetics, but emphasis is rather placed on economic growth models. These efforts have resulted in the rise of the poverty level, because of the over-reliance on production (Agyako, 1996). The resultant effect is the gross degradation in the environment.

Today, the world is very much aware of the fact that the environment is at risk, and mankind and other living creatures are increasingly being exposed to numerous environmental risks hitherto unknown and unanticipated. The outcome of every human activity is the depletion and degradation of environmental resources. One writer asserts that, "today, with about six billion

people on the planet earth, nearly all the surface of the earth has been affected in some way or the other by human activity" (Owusu-Ansah, 2001).

Environmental degradation has therefore become a worldwide phenomenon with extremely serious implications for life. For example, since the mid-20th century the world has lost nearly one-fifth of cropland, a fifth of its tropical rainforests, and tens of thousands of plant and animal species (Tietenberg.Tom 1996). Aggravating these problems is the fact that the earth is warming up due to human activities, which increase the temperature of the atmosphere.

Furthermore, the records show that Ghana has had enough of these destructive activities and the evidence abounds. At the turn of the 20th century, Ghana could boast of some 8.2 million hectares of moist forest. By 1989 the forest area was less than 2.1 million hectares (Ghana Vision 2020, p.20). This assertion shows that 75% of the country's forests have been lost through commercial logging and conversion of forest lands for urban and agricultural uses within less than a century.

The fast destruction of the forest, not considering its aesthetic values, might probably be responsible for the occasional experiencing of extreme climatic conditions in the country. Owusu-Ansah (2001) states that,

> when the rains come they are sometimes very heavy (e.g. 1968, 1985, 1995); accompanied by strong winds, which leave behind the destruction of both plant and animal life. There has also been years of long dry seasons (e.g. 1977, 1982-83, 1997). The resultant droughts create conditions favourable to bush fires and famine. (p. 15).

Very soon industrial pollution is going to assume a very serious dimension in Ghana. The industrialization of Accra and Tema without any aesthetic consideration of the environment is a cause for concern when discussing environmental problems in Ghana. Flooding is also another agent responsible in environmental degradation as a result of deforestation and littering of garbage in our cities which tend to choke drains. In the recent past floods in parts of Accra claimed several lives and thousands of hectares of farmlands and crops were destroyed by floods in the northern sectors of the country. Diseases such as malaria and cholera are also prevalent due to insanity conditions. To sum up, soil erosion is also common in the savannah and high forest ecological regions; desertification is of great concern in the arid northern areas of the country; and water pollution and aquifer dry-ups are also a major threat to Ghanaians both in the rural and urban centres. This problem arises from discharge of all kinds of waste into water bodies without any form of treatment.

The need to care for the environment in which we live is not a new phenomenon. It has always been the concern of many nations. For example, the National Park Movement, which dates back to the 1870s, is a result of some of these concerns

(Wright, 1993). In recent years environmental issues have become matters of concern for a growing number of people and there are now many examples of attempts to curb the worst excesses of human action, and to rehabilitate damaged ecosystems. While human numbers remained small and the technology limited, interference was patchy, rarely of long duration, and largely restricted to modifications of the vegetation. Wright (1993), however, points out clearly that that position changed dramatically over the past few years as world population numbers have increased, and technologies developed, to the point where human beings are now an extremely potent factor. According to him, human beings have not only greatly altered the patterns of natural vegetation but they also have modified soil conditions over large areas, changed the composition of the atmosphere and modified the contours of the land surface.

It is obvious that while human activities continue to degrade the environment there is a clear link between environmental disruption and socio-cultural practices as a result of population increases. This dissertation provides a framework within which some of the more topical issues of environmental concern are given aesthetic considerations for its protection. Also, the research provides practical solutions that can be implemented if good socio-cultural practices are in place.

The environmental outlook for the future is mixed. In spite of economic and political changes, interest in and concern about the environment remain high. Air quality has improved in some areas in the developed world but has deteriorated in many developing countries, and problems of acid deposition, chlorofluorocarbons and ozone depletion, and heavy air pollution in Eastern Europe still seek solutions and concerted action. Until acid deposition is diminished, loss of aquatic life in northern lakes and streams will continue, and forest growth will be affected. Water pollution will remain a growing problem as increasing human populations put additional stress on the environment. Infiltration of toxic wastes into underground aquifers and intrusion of saline waters into coastal freshwater aquifers have not been stopped.

Depletion of aquifers in many parts of the world and growing demand for water will bring agricultural, industrial, and urban use of water into conflict. This shortage will force water-usage restrictions and will increase the cost of water consumption. Water could become the "energy crisis" in the near future. Pollution of coastal and fresh water along with over-harvesting has so depleted fishery resources that five to ten years of little or no fishing will be required for stocks to recover. Without concerted efforts to save habitats and reduce poaching and the illegal worldwide wildlife trade, many wildlife species will become extinct. In spite of our knowledge of how to reduce soil erosion, it continues to be a worldwide problem, largely because too many agriculturalists and developers

show little interest in controlling it. Finally, the destruction of wild lands, in both temperate and tropical regions, could result in massive extinctions of animal and plant life.

Furthermore, there are reports that there are a lot of challenges ahead in relation to the state of the environment:

- emissions of greenhouse gases are having an increasingly detrimental impact on the atmosphere;
- urban air pollution is a growing health concern, triggering or exacerbating respiratory and cardiac problems;
- surface and groundwater resources are being rapidly drained;
- many species are becoming endangered or extinct;
- the oceans are being harvested at unsustainable rates;
- land degradation is accelerating and intensifying, particularly in developing countries;
- forest ecosystems are being degraded, cleared or fragmented, with the greatest losses in Africa;
- the world's largest cities are badly affected by inadequate housing, air and water pollution and solid waste disposal;
- the growing frequency and intensity of natural disasters over the past 30 years has put more people, especially the poor, at greater risk.

To reduce environmental degradation and for humanity to save its habitat, societies must recognize that the environment is finite. Environmentalists believe that, as populations and their demands increase, the idea of continuous growth must give way to a more rational use, sustainable exploitation of the environment, but that this can be accomplished only by a dramatic change in the attitude of the human species. The human attack on the environment has been compared to the dramatic upheavals of the Earth in the geological past; whatever a society's attitude may be towards continuous growth, humanity should recognize that this attack threatens human survival.

1.2 Statement of the Problem

Although, art (aesthetics) has made a dramatic impact on our societies, including Ghana, it has not been fully utilized to protect the environment. Secondly, despite the fact that the world has become fully aware of the devastating consequences on the eco-system due to the degradation of the environment, much has still not been achieved through the use of Ghanaian art, cultural and social traditions to devise pragmatic methods to check the ever-increasing activities of Ghanaians who are the causal agents.

Furthermore, in spite of policies made by various governments in Ghana to protect the environment, the problem, no doubt, still keeps on escalating by the day. Unfortunately, policy-makers, businessmen, industrialists, educationists

and the general public seem not to consider art and culture in their policies to sensitise the public about Ghanaians' negative attitude towards the environment; and the various artistic means that can be harnessed to forestall this anomaly. Also, rapid growth in Ghana's population and technological advancement have rather aggravated this environmental menace. Day in day out, researchers are looking for new technologies that would improve the life-style of man. But they have failed largely to adequately address this problem from the artistic and cultural perspective.

It is on account of these that this research topic was proposed to sensitise the public about the effectiveness of artistic and cultural practices of Ghanaians that could help in protecting the environment, taking into consideration the devastating effects of Ghanaians' negative attitude on the environment.

1.3 Objectives of the Research

The objectives of this research are to find out:

i. find out the relationships between human institutional frameworks and socio-cultural construction of human environments;
ii. identify visual aesthetic elements inherent in both natural and built environments;
iii. point out Ghanaian socio-cultural activities that affect the aesthetics of the environment negatively; and

iv. show how art and culture could be used effectively to protect the environment in order to enhance its aesthetic values.

1.4 Purpose of the Study

Since most people take for granted the aesthetic aspects of the environment, it is necessary for this research to draw their attention to the negative attitudes of Ghanaians that contribute to its rapid degradation in order to reverse this trend. Also, since Ghanaian artistic activities, social and cultural traditions can be harnessed effectively to protect and enhance the beauty of the environment, it is important to employ such activities to sensitize the public about the usefulness of the environment and the need to protect it.

1.5 Delimitations (Scope of the Study)

The study examined the aesthetics of the environment in relation to the natural (water bodies, forests, mountains, etc.) as well as the built environments. It was also limited to the indigenous and contemporary socio-cultural practices of Ghanaians affecting the environment.

Although, the study was limited to the coastal savannah areas of Ghana, specifically Greater Accra, occasionally, references were made to the general or particular practices in other regions of Ghana, as well as other cultures in some parts of Africa and other continents.

1.6 Limitations of the Research

The research was characterized with an extensive traveling to enable me collect and ascertain data on pertinent issues involving the environment. However, due to insufficient funds some areas could not be covered, especially when the researcher saw the need to take snap shots of the aerial view of the environment which could best be done with an aeroplane.

1.7 Hypothesis

Aesthetic considerations and good socio-cultural practices of Ghanaians contribute immensely to the beauty of the environment and its protection in Ghana. This research statement has been the guiding principle for the collection of data, which was discussed, analysed, interpreted and supported largely with illustrations, photographs, figures, charts, maps, etc. in order to answer, validate, substantiate or disprove the hypothesis.

1.8 Importance of the Study

The study is important because it shows the relationships between humans and the environment, and the need to protect it for sustainability of life. Aside this, it defines a concise and strategic structure for projecting the potentialities inherent in aesthetic and cultural practices in our indigenous societies that promote environmental protection.

As the study seems to be the first of its kind the findings shall enable policy-makers, stake-holders and other individuals to draw a mutual relationship between visual art forms, culture and environmental protection. It shall enable the public understand aesthetics and culture, and appreciate their relevance to the conservation and beautification of the environment. In other words, it is highly relevant because of its integration of aesthetics, socio-cultural dynamics and scientific perspectives to environmental issues and the suggested guidelines of action to control the environment from degradation.

Moreover, the research findings are beneficial to the tourism sectors, Environmental Protection Agency, Friends of Rivers and Water Bodies, The Forestry Commission of Ghana, policy makers, project planners, the District Assembly, Ministry of Lands and Forestry, government agencies and non-governmental organizations (NGOs) involved in environmental protection and natural resource conservation; thereby contributing significantly to the socio-economic development of the country.

Furthermore, people's negative attitudes that contribute to the rapid degradation of the environment shall be drastically reduced. Moreover, the research will impact positively on the aesthetic effects of projects that depend on the activity, exposure and sensitivity users and viewers. Some of these areas include residential areas, areas of recognized beauty (local, state or national), parks and

recreation areas, historic or other culturally-important resources, entry to urban areas, water bodies, public facilities (hospitals, colleges, universities), business centres, and office complexes.

1.9 Research Methodology

The main focus of this section is the source of data, techniques of data collection and the descriptive techniques used.

a. Sources of Data:

Both primary and secondary data were used in the study. A field work was undertaken to collect data from stakeholders whose identified activities are of significance to the study. Firstly, the literature of related writings and empirical evidence on the subject are reviewed.

b. Techniques of Data Collection:

Field trips, interviews, critical observations, library researches, etc. were undertaken. Computer, scanner, digital camera, tape recorders and digital software were employed in conducting and organizing the research. In addition, descriptive, experimental, argumentative and analytic techniquecss were used to present the data collected. However, the research findings are validated (supported) largely by illustrations, maps, tables, charts and figures.

1.10 Structure of the Dissertation:

Chapter One, which is the introductory chapter, gives a general overview of the background to the study. It highlights on various causes-and-effects on the state of the environment in relation to its aesthetic aspects. The background to the study, however, extrapolates the need and relevance of the present study. The chapter further indicates the statement of the problem, objectives, hypothesis, a brief overview of the methodology and scope of the study. In addition, the chapter outlines the importance of the research.

Chapter Two deals with the review of literature that is relevant to the present study. The chapter cogently discusses some salient points under the following three main subheadings: indigenous socio-cultural practices affecting the environment; aesthetics (which specifically deals with aesthetics as it applies in works of art and environmental aesthetics) as well as the environment in general i.e. its definition, ecological and cultural determinants.

Chapter Three also looks at the relationship between Ghanaian indigenous aesthetic values and the environment. Based on the information gathered from the review of available literature, the chapter vividly explains various aspects of aesthetics as it applies in the study and its correlation with the coastal savanna area of Accra. This researcher has done this under the various subheadings: aesthetics of art; indigenous Ghanaian concept of aesthetics; philosophical and

ethical characteristics of Ghanaian society and nature; aesthetic appreciation of the environment in relation to artistic visual elements; and aesthetic equilibrium between the natural environment and the artistic environment.

Chapter Four, however, highlights on the research methodology employed in the study. It also throws light on the study zone used as the setting for the study to explain the various causes and effects that serve as challenges to the state of the physical environment.

Chapters Five and **Six** present the research findings. They reveal various activities of Ghanaians that affect the aesthetics of both natural and built environments negatively; and activities that promote and protect the aesthetic aspects of the coastal savanna area of Accra, respectively.

Furthermore, **Chapter Seven** covers discussions, summary, recommendations and conclusions. The chapter further discusses and interprets the research findings in relation to the hypothesis. It also points out how the research has contributed to knowledge. Aside this, the chapter attempts to compare the literature review with the field research findings. Finally, we have offered some valuable suggestions and recommendations that may help augment the aesthetic aspects of the Ghanaian environment as well as protect it from further degradation.

1.11 Definition of Terms

Aesthetics: Aesthetics refers to the ways in which humans experience the world through their senses. It is especially concerned with the appreciation of particular objects when they strike the senses in a pleasing manner. For this reason, aesthetics most frequently focuses on works of art and other similar objects that are explicitly designed for human sensory enjoyment. However, aesthetic appreciation is not limited to art; it is frequently directed towards the world at large. This is the environment that surrounds humans in their day-to-day existence and thus constitutes the everyday environment: the world in which people work, play and live.

Biodiversity (Biological Diversity): Biodiversity is considered as variety of life forms, measured in terms of biomes, ecosystems, species, and genetic varieties and the interactions between them.

Culture: Culture is a broad term, which is often defined as shared knowledge, values and norms that are transmitted, usually with some modifications, from one generation to the next through procedures of socialization. Culture is, therefore, clearly manifested in language, customs and traditions, social institutions, ways of life, modes of subsistence, technology, inventions, artistic expression and other forms of human creativity and innovation (Oviedo,

Gonzalo, Maffin and Larsen, 2000). Culture also incorporates values, activities and objects of existence.

Ecosystem: Ecosystem is used in this study to refer to a specific biological community and its physical environment interacting in an exchange of matter and energy.

Ecotourism: Ecotourism is a combination of adventure travel, cultural exploration, and nature appreciation in wild settings.

Effluent: This is often a discharge of pollutants into the environment, partially or completely treated or in its natural state. It is generally used in regard to discharges into waters.

Environment: Generally, environment may refer to the circumstances or conditions that surround an organism or group of organisms as well as the complex of social or cultural conditions that affect an individual or community. On a simpler note, the environment may be referred to as the natural world within which people, animals, and plants live. In view of this, it is used in this study as the physical, natural and built environments surrounding man.

Indigenous Peoples: The term 'indigenous', which is used interchangeably with 'traditional' in this dissertation, stands for tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own traditions or by special laws and regulations.

Natural: In this dissertation, the term 'natural' is used to refer to the non-built environment. There is considerable debate over the meaning of *natural* in the development and environmental literature. Anthropologists point out that what we consider to be 'nature' and 'natural', and how we 'engage with the natural' varies across cultures. The western tradition often views nature as something separate from people, sometimes as an adversarial force to conquer and control.

Research suggests that many so called 'natural' or 'pristine wildernesses' are cultural landscapes either created by humans or modified by human activities, and that traditional peoples have been the 'authors' of some *in situ* biodiversity (Gomez-Pompa, A. & Kaus, A., 1992).

Sacred: The word sacred comes from the Latin word *sacrare*, meaning to consecrate, or to make holy (Webster, 1932). In classical terms, the sacred is that which is set apart as holy for religious reasons, usually by religious ceremony. It is consecrated ***by*** religion, and consecrated ***to*** religious use. The sacred is often

contrasted to that which is secular, profane or commonplace. Thus, a sacred site is frequently understood to mean a place set aside, with a point of entry, with a religious experience within.

Site: In this dissertation, the term site refers to a physical area, such as a forest, woodland or grove of towns, river, lake, lagoon, coastal area, mountain, etc.

Spiritual: Spiritual usually denotes an interest in things of the *spirit*. While there are many definitions and theories of spirit, in the broadest sense it may be considered as a non-material divine power which generates and animates corporeal things. It may also be viewed as the divine principles of life or consciousness which subsists independently of existence.

Traditional: The word 'traditional' is derived from the Latin *tradition*, which means to 'transmit'. As used in contemporary speech, the terms ***tradition*** and ***traditional*** are often misleadingly associated with a static body of beliefs or practices. However, the root meaning helps redraw attention to the dynamic, social process of 'handing-on' rather than the content of that which is transmitted per se.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Overview

The aesthetic appeal of the environment is a very important phenomenon for environmental protection in every part of the globe (Hettinger, 2005). Though the environment and its protection are of utmost importance to the development of mankind, little or ineffective methods are used by various stakeholders to address the frightening consequences of environmental degradation. Several attempts are being made by various governments to solve environmental issues, but "attention to ***aesthetics*** is relatively lacking in the environmental ethics literature" (Carlson, 2006). This researcher intends to point out the positive effects of ***environmental aesthetics*** to environmental protection. Thus, this chapter is intended to make a thorough and extensive review of what previous researchers have documented on environmental aesthetics and its contribution to the protection of the environment. It further examines what other writers have discovered about the importance of indigenous socio-cultural practices to the protection of the environment. It also tries to find out what these writers did not cover in their discussions and see if this research could address them.

However, to be able to come out with a thorough review on the subject, this writer intends to examine various issues relating to the natural and the built environments. A critical survey is conducted on environmental risk assessments, environmental degradation, environmental protection, and environmental aesthetics and indigenous socio-cultural practices that affect the environment negatively.

2.1 Indigenous Socio-Cultural Practices affecting the Environment

Indigenous socio-cultural practices are the daily, monthly or annual activities of traditional people in our communities that contribute to the protection or destruction of the environment. Aside from this, the advent of technology has added some impact as far as the destruction of the environment is concerned. For instance, activities such as mining have affected certain cultural sites and nature reserves. Some of these sites were originally considered by the indigenous people of Ghana as sacred and therefore, all human activities in these areas were prohibited. These sites helped to preserve the environment as a whole. Certain streams, for instance, are considered sacred and even though sand, which people can mine, is found near them, by traditional beliefs of Ghanaians, it used to be a taboo to mine from the streams. However, due to increase in population and indiscipline in our society, most of the vegetation around the sources of streams have been degraded (Asenso-Gyambibi, 2001).

However, some socio-cultural practices in indigenous communities in Ghana, and for that matter the whole of Africa, have been identified as some conscious activities that the traditional folks employed to save the environment from destruction, even though these activities have spiritual connotations.

To establish more insight into the effectiveness of socio-cultural practices in environmental issues, Effa-Ababio (2005) vividly describes the nature and dynamics of culture and its social dimensions. According to him, culture comes about as the response and creative reaction of a people to nature. It is the product of proper utilization of the gifts of nature to create healthy environmental conditions and social organization for the well-being of the members of a society, a traditional area or a nation. Explaining further, he points out that culture manifests itself in its constituent parts which are language, ideas, customs, traditions, inherited and studied artifacts, belief systems and their expressions, moral values, art forms, social organization and institutions, occupations and habits of various types, progress and development in science and technology.

Culture is also seen as a human achievement. Poole (1938) looks at culture as what your butcher would have if he were a surgeon. Looking at culture in relation to the ingenuity of the first couple (Adam and Eve), as related in the Bible, it can be said that culture is as old as creation. Its evolution started with Adam and Eve in the Garden of Eden. Effa-Ababio (2005) makes an implicit

analogy when he explains that when Adam and Eve ate of the fruit of the tree of which the Lord God commanded them not to eat, their eyes were opened and they knew that they were naked; and sewed fig leaves together and made themselves aprons (Genesis 3:7). Until they ate of the tree and their eyes were not opened, they were naked and that was natural. When their eyes were opened, they realized they were naked and so they sewed fig leaves together and made themselves aprons and that was culture. They made use of nature and achieved the aprons with which they covered their nakedness and that achievement in nature became their culture at that time. Culture is not only a social heritage, it is also seen as human achievement. As social heritage, it is handed down from generation to generation.

Judging from the foregoing analysis, it is deduced that culture is the product of human activities and achievements, which evolves over a period of time and this happens in organic and inorganic environment. What happened in biblical times is no different from what happens today in our traditional societies. The traditional Ghanaian has woven all this into the fabric of his religion, which permeates every aspect of his life. Religion, for him, is everything. He makes no distinction between his religious activity and say, his politics or administration of justice (Sarpong, 1974). To the Ghanaian, whether hunting or eating or settling cases or dancing or weeding or cleaning his environment or traveling or whatever else he is doing, he is deeply involved in a religious experience.

Religion as an aspect of his culture pervades his life from cradle to grave, and there are important religious rituals which are performed to bring spiritual and physical equilibrium between him and his environment.

By extension, indigenous Ghanaians believe in a host of spirits existing in the universe, and these spirits possess astonishing powers that may be used to the advantage of man or to his detriment. Sarpong (1974) reveals that these spirits, created by God, have as their earthly abode, anything from rivers to creepers, and from beasts to rocks. In other words, they are domiciled in natural places and objects such as rivers, forests, rocks, mountains and the sea. Aside from this, there are also man-made shrines that are created for some specific spirits (especially, spirits of the dead), and these "residential areas" are used to induce fear and reverence. They demand worship and obedience from man, in default of which they inflict punishment on him. In view of this, several taboos are instituted and observance of these taboos promote the control of the environment. Consequently, spiritual equilibrium is achieved between man and the spirit world; hence the environment is protected from degradation.

The knowledge in the beliefs by traditional Ghanaians, and for that matter Akans in particular, that trees or plants have spirits places the environment at a higher pedestal for its protection. As Rattray (1959) vividly points out how Akans revere plants and trees:

> …trees and plants in general have their own particular souls which survive after 'death' – the Ashanti think that all these undoubtedly have such a soul – … which is being propitiated, or whether a particular tree or plant has become the shrine, or medium, or dwelling place of some external and totally different spiritual agency which has entered into the plant or tree and become the object of veneration and propitiation. (p.2)

The writer came up with this revelation based on a conversation he had had with a traditional priest concerning some other rites where there is little doubt that the soul of a plant or tree propitiated is that of the plant or tree itself, and not some exotic spirit which has merely lodged temporarily or even permanently in it. According to him,

> At Nkoranza in Northern Ashanti, near the site of the present rest-house and just off the main road, stands what the European and the native interpreter calls a 'fetish' tree...it became clear to me that it was not the spirit of the tree itself which was propitiated, but some other spirit altogether, which had taken up its abode in this particular tree. The priest called his tree an *abosom*, i.e. a shrine of a god. The spirit, he declared, 'dwelt in its roots' (Rattray, 1959 p.3).

Again, in order to perpetuate the life and replenish the fertility of the soil, which is held in high esteem as the mother of the universe, the traditional African embarked upon what is now called shifting cultivation. Duerden (1974) elucidates that among the Yoruba farmers of Nigeria, the need for the hunters of that society to move onwards, of men to go to other villages to look for wives, and the practice of shifting cultivation so that even the farmers of each village have to move means that the principle of change and therefore of productive disorder was built into their society. This practice protects the environment

because the people do not over-cultivate one piece of land for a long period of time thereby degrading it.

It is also apparent that the sense of life-force in nature which is at the disposal of society is capable of taking on the characteristics of flexible order to bring harmony among the environmental constituents (Duerden, 1974). This life-force is portrayed in some inorganic and organic objects of nature, and this makes man revere, worship and protect them from destruction. Duerden describes this vividly:

> …life-force was symbolized order and permanence because it regulated the unchanging parts of the pattern of people's lives, night and day and the seasons. Consequently, the sun and the gods of the sky were seen as imposing a regimen on the earth, one that was voluntarily accepted, but was nevertheless often regarded as an unfortunate necessity. For example, the myth was widely told that the earth quarreled with the sky so that the sky withheld rain, and life on the earth began to dry up. Then the earth sent a bird as a messenger to the sky, and the bird interceded on behalf of the earth, and the sky relented and sent rain (Duerden, 1974 p. 25).

This clearly shows that the bird is an important feature of this myth because birds have great power in their capacity to act as messengers of the earth to the sky. Despite the fact that the sky could harm life on the earth by withholding rain, the earth was held to be superior to the sky; it was in fact the source of life-force. This belief in life-giving force has given rise to several cults of the earth among the Yoruba of Nigeria. This clearly shows the expression of life and also as the place to which the dead return in a continuous regenerative process.

It is implicit that the earth is regarded by the *Luba* ethnic group in the southeastern part of the Democratic Republic of Congo as the source of the life-force, a principle of constant innovation and renewal. The sky seeks to take the products of this life-force and fix them into a pattern. The sky imposes repetition and regulation. This cycle of rhythmic movements is also found in a king among the *Luba*, for example, who represents the spirits of the sky, has to have his drums beaten at dawn to announce the advent of a new day, and he had to say when the crops were to be harvested.

Nevertheless, Fellman, Gettis & Gettis (2005) reveal that humans isolate themselves from the physical environment and superimpose cultural landscapes on it to accommodate the growing needs of their growing numbers. Many cultural landscape changes are minor in themselves. The forest clearing for swidden agriculture or the terracing of hillsides for subsistence farming are modest alterations of nature. Plowing and farming the prairies, harnessing major river systems by dams and reservoirs, building cities and their connecting highways, or opening vast open-pit mines are much more substantial modifications. In some cases the new landscapes are apparently completely divorced from the natural ones which preceded them – as in enclosed, air-conditioned shopping malls and office towers. The original minor modifications have cumulatively become totally new cultural creations.

However, the suppression of the physical landscape does not mean eradication of human-environmental interactions. They continue, though in altered form, as humans increasingly become the active and dominant agents of environmental change. More often than not these changes create unplanned cultural landscapes and unwanted environmental conditions, such as altered climates; polluted air, water and soil; degraded natural vegetation and land contours; and stripped ores and fuels from the earth. These adverse consequences of human impact on the environment are unforeseen creations of the landscapes of culture.

An attempt to look at some theoretically oriented approaches to partial intertwining of environment and ritual ethics – drawing largely on anthropology, Silka (2001) explores some impressive cases of created eco-rituals, or rituals produced in a context of activist ecological spiritualities. Two solid examples of how activists use rituals effectively to motivate environmental consciousness, protection, and restoration are: the "ecology monks" of Thailand with their famous strategy of tree-ordination; and the "earthkeeping churches" of Zimbabwe in Southern Africa with their extraordinary success in ritualizing multiple environmental initiatives. The writer also notes some more diffuse but widespread phenomena in India, where various environmentalist movements draw on various mythological motifs and motivations to protect and restore local landscapes. Furthermore, some of the ways that traditions, religious values and

ritual practices may be effectively and benignly employed to help solve new environmental problems are demonstrated in this description.

Commenting on the above views, Gold (2002) points out that although Silka's example is not ethnographically dense with detail, it readily evokes our admiration for an ongoing community project that was not only well conceived but has remained permeable to multiple perspectives, and mutable along with changing needs, circumstances and populations. The multifaceted project has evidently succeeded in being genuinely productive of heightened consciousness of environmental problems. Silka's case study also demonstrates how collective well-being may be promoted through tapping youthful energy, in conjunction with serious attention to, and respect for, elders' knowledge and authority. Vital knowledge, in relation to cultural practices that are not only regarded sacred but revered by all and sundry in a particular society, is thereby disseminated across generations in both directions.

Anthropological research and writing on environmental issues is notably on the rise, as are publications and teachings in the field of religion and ecology (Milton, 1993, 1996; Crumley, 2001; Brosius, 1999; Tucker and Grim, 2001; Monserud, 2002). It is declared without reservations, that religion has the potential to provide a worldview, values, attitudes, practices, ***rituals***, institutions, and sacred places for effective development of a vibrant and adaptive spiritual ecology.

It is revealed succinctly that human activities in the traditional societies invariably protect the environment from destruction through the observance of certain communal rituals and taboos. However, in another setting, in order to provide for the needs of the ever-increasing numbers of the people much pressure is exerted on the environment thereby degrading it. In view of this, the present author seeks to provide suggestions that may bring mutual harmony or equilibrium between the afore-mentioned bipolar conflicts for the protection of the environment. To do this effectively the author intends laying much emphasis on aesthetics as vital 'stakeholder' matters concerning the environment as well as employing effective indigenous socio-cultural practices to support scientific knowledge to augment the solution at solving environmental issues.

2.2. Aesthetics

The laws of nature indicate that the environment and its constituents are created things that have numerous qualities embedded in them for appreciation. The complex nature of the environment, however, renders it somehow difficult for one to fathom its aesthetic characteristics. Nevertheless, aesthetics abounds in every animate and inanimate objects found in our surrounding, and the environment is no exception.

In the realm of philosophical disposition, aesthetics is defined as the science of the law-governed aesthetical assimilation of the world by man, of the essence

and forms of creative work according to laws of beauty (Frolove, 1984). In other words, aesthetics (also *esthetics* and *æsthetics*) is the subfield of philosophy concerning beauty and art.

The word "aesthetics" was not widely used in English until the beginning of the 19th century. Its use comes from the German *ästhetisch* or French *esthétique*, (both from the Greek *αισθητική* meaning a *perceiver* or *sensitive*) and mainly facilitated translations of Immanuel Kant. It meant "the science which treats of the condition of sensuous perception". Elsewhere, the philosopher Alexander Gottlieb Baumgarten had taken it in German to mean "criticism of taste" despite Kant's efforts to correct Baumgarten, this definition survived and Baumgarten is credited with inventing the modern use of the term. Thus, aesthetics is also an important part of critical theory (http://en.wikipedia.org/wiki/Aesthetics").

Aesthetics is also defined by Allen (2002) as the field of philosophy that studies the ways in which human beings experience the world through their senses. It is especially linked to the recognition and appreciation of particular objects when they strike the senses in a pleasing manner. This author further explains that aesthetics mostly focuses on works of art and other similar objects that are purposefully designed for humans to enjoy. However, he indicates that aesthetic appreciation is not limited to art but it is frequently directed to the world at large.

Thinkers and sages over the world have discussed beauty and art for millennia, but the subject was formally distinguished as an independent philosophical discipline in the 18th century by German philosophers. Before this period authors viewed the study as inseparable from other main topics, such as ethics in the Western tradition and religion in the Eastern. Additionally, Frolov *et al.* (1984) also reveal that aesthetics originated about 2,500 years ago, in the period of slave-owning society, in Egypt, Babylon, India and China. The author, however, claims that aesthetics was greatly developed in ancient Greece and Rome. According to him, their materialist trend was encouraged by learned individuals like Democritus, Aristotle, Epicurus, Lucretius, and others who believed in the objective basis of beauty, which they found in material qualities, links, relations and laws of reality. Contrary to Plato's idealistic teaching, according to which beauty was an absolute, eternal, immutable and preter-sensual idea, and sensible things created by art were but the reflection of this idea.

Frolov *et al* (1984) further explain that aesthetic feelings constitute an emotional condition arising in the process of aesthetic perception of phenomena of reality or works of art. Aesthetic feelings are a kind of response to this perception which can be expressed through the feeling of the beautiful or the sublime, the tragic or the comic. This explanation probably indicates that man's aesthetic experience is not limited to ***aesthetic feelings,*** but it cannot exist without them. Aesthetic

feelings are a product of man's historical development. They reflect the level of society's aesthetic consciousness. Works of art which materialize the aesthetic feelings in images are an effective means of either ideological or emotional education. They are meant to be a source of human joy and inspiration. But Kennick (1979) purports that aesthetic terms always ultimately apply because aesthetic qualities always ultimately depend upon, the presence of features which, like curving or angular lines, colour contrasts, placing of masses, or speed of movement, are visible, otherwise discernible without any exercise of taste or sensibility. There are no non-aesthetic features which serve in any circumstances as logically sufficient conditions for applying aesthetic terms. Aesthetic or taste concepts are not in this respect condition-governed at all.

In another development, Frolov *et al.* (1984) indicate that Hegel, an objective idealist, defined aesthetics as the first and imperfect form of the absolute spirit. They testified further that the source of beauty is physical qualities of objects and phenomena and to deduce aesthetic feelings and tastes from biological laws and the nature of man. The authors inferred that Pre-Marxian materialist aesthetics has reached the peak of its development in the works by the Russian revolutionary democrats Belinsky, Chernyshevsky and Dobrolyubov who formulated the laws of realistic art. In their view, unlike the idealist and vulgar materialist theories, Marxist-Leninist aesthetics holds the objective basis for the aesthetical assimilation of the world is man's purposeful creative activity. In this

activity man's social essence and creative powers aimed at transforming nature and society find their full application.

Frolov *et al.* (1984), as many other writers outline the main aesthetic categories: *the beautiful and the ugly, the sublime and the base, the dramatic, the tragic and the comic, the heroic,* appear as specific manifestations of the aesthetic assimilation of the world in every field of social being, human life – in production, public and political activity, in attitude to nature, in culture, in everyday life, etc. The arts and the process of artistic creation are part of aesthetics and its most essential aspect. In analyzing the essence of art and its laws, aesthetics is intimately connected with all the special, theoretical and historical sciences, and sciences of the arts. Aesthetics is, however, a philosophical science, which studies the general principles of man's aesthetic attitude to reality including art; as for art criticism it is concerned with the specifics of art as such. To sum up their views, Frolov *et al.* (1984) explain that Marxist-Leninist aesthetics scientifically discloses the different aspects of the nature of art and the process of artistic creation: the origin of art, its essence and relation with the forms of social consciousness, specific features of the artistic image, interrelation between the content and form in art, fundamental principles of socialist realism and its socio-transforming role in building communism.

The above discussions have highlighted the intrinsic characteristics of aesthetics. It is obvious that aesthetics may be illuminated by comparing it to *anaesthetic*, which is by construction an antonym. If something is *anaesthetic*, it tends to dull the senses or cause sleepiness. In contrast, aesthetic may be thought of as anything that tends to stimulate or enliven the senses. In other words, aesthetics is popularly used to mean "that which appeals to the senses". In summary, when aesthetics was established as a field of study by German philosophers in the 18th century, the emphasis was on beauty, taste, transcendence and the sublime. Aesthetically appealing objects were beautiful in and of themselves. What was considered beautiful was distinguished from the sublime. Beautiful art might fall into the category of what we think of today as pretty, pleasant, pleasing to the eye. Sublime images, on the other hand, were awe-inspiring. Dramatic scenes from nature such as vast mountainscapes, the dazzling sea, of light shining through forested trees produce an experience of the sublime.

Suffice it to say, Dutton (2005) indicates that "pure" aesthetics is all about form and structure. It is an intuitive appeal to this formalist way of thinking through aesthetics. Dutton further indicates that:

> ...people who cannot feel pure aesthetic emotions remember pictures by their subjects; whereas people who can, as often as not, have no idea what the subject of a picture is. They have never noticed the representative element, and so when they discuss pictures they talk about the shapes of forms and the relations and quantities of colours. (p. 2)

In this open and pluralistic space, aesthetics represents the attempt to conceptualize, reflect, criticise or interpret art that has featured in civilization since the dawn of humanity. Probably, it may also be regarded as entailing an appraisal of our rational and perceptual relation to form. As its etymological origins make clear, the term aesthetics (coined by Baumgarten in 1735), derived from the Greek word ***aesthesis*** (sensation) and is thus linked to sensuous knowledge. Oscillating between reason and heart, between the sensible and the rational, aesthetics is inherently wrought of paradoxes.

In our part of this world, indigenous Africans see beauty in everything around them. This notion is portrayed in their philosophy of life. The life of the traditional African is controlled by the principles underlying these philosophies, and aesthetics is considered to be one of the basic aspects of their daily endeavours. African aesthetics generally has a moral basis, as indicated by the fact that in many African languages the same word means ***"beautiful"*** and ***"good"*** (http://www.wikipedia/African art & aesth.htm). "Beautiful" refers to the total outlook of a particular animate or inanimate object; and "good" is mostly used to describe the inner qualities inherent in an object including human beings. In humans, however, it is judgmental of moral fibre. The manifestation of this aesthetic quality is consistent with the use and meaning of African art, that is, it should be both beautiful and good, because it is intended not only to please the eye but to uphold moral values.

Aesthetics in African artefacts (including the natural environment within which the artifacts are created and dwell) have generally been exhibited with reference only to cultural context and use. In African aesthetic principles and related moral and religious values, there is good reason to emphasize the formal aesthetic aspects of the objects and the moral and religious ideas they express.

It is implicit in Gyekye's studies on the characteristics of African aesthetic values as it relates to aesthetics, probably, in several other cultures. According to him:

> The aesthetic is characterized by delight, interest, and enjoyment experienced by human beings in response to objects, events, and scenes. It holds the attentive eye and ear of the person and arouses his or her appreciation and enjoyment as he or she looks and listens. Aesthetic values refer to those features of objects, events, and scenes that are considered worthy of sustained appreciation, attention, and interest. The concept or value of beauty is central to the aesthetic experience and evaluation and is generally associated with works of art such as paintings, sculptures, and musical composition, as well as artistry through dance (Gyekye, 2003).

Even though the writer reveals that in African aesthetics the objects that are traditionally considered worthy for sustained appreciation and enjoyment in African cultures include painting, sculpture, music, and dancing, they may include more; that is to say the focus of African aesthetics is wider, its concerns are much greater. African aesthetics considers the beautiful to include more in life of a person than events, scenes, and works of art; it deals also with the standards of value in appraising other aspects of human life and culture, such as humanity itself and morality.

Furthermore, Rattray (1959) indicates that in most aesthetic evaluations the purely aesthetic element may, probably, be the most important element. He cites that the traditional wood-carver, for instance, is certainly concerned about how his work, say a stool, will excite the purely aesthetic judgment of an observer, which is how beautiful the stool appears to an observer, for its beauty may induce the observer to appreciate it.

Clearly, beauty with respect to artistic products is defined in terms of functionality and symbolic significance as well as the purely aesthetic. And these purely aesthetic feelings are induced by the natural environment and its constituents such as the forest, seas, sky, mountains, garden, buildings, etc.

Another researcher also reiterated that aesthetics owes its name to Alexander Baumgarten who derived it from the Greek ***aisthanomai***, which means *perception by means of the senses* (Budd, 1998). He indicates that aesthetics consists of two distinctive parts:

i. The philosophy of art,

ii. The philosophy of aesthetic experience and character of objects or phenomena that are not art.

According to him non-art items include both artifacts that possess aspects susceptible of aesthetic appreciation and phenomena that lack any traces of human design in virtue of being products of nature, and humanity. The

philosophy of art is basic in aesthetics, since the aesthetic appreciation of anything that is not art is the appreciation of it as if it were art. Also, there is auditory notion of the aesthetic that applies to both art and not-art. This notion defines the idea of aesthetic appreciation as disinterested delight in the immediately perceptible properties of an object for their sake. In addition, artistic appreciation is just aesthetic appreciation of works of art.

In other words, aesthetics is concerned with understanding beauty particularly as manifested in art, and with its evaluation. Clearly, over the years aesthetics has developed into a broad field of knowledge and inquiry. The concerns of contemporary aesthetics include such diverse problems as the nature of *style* and its aesthetic significance; the relation of aesthetic judgment to culture; the viability of history of art; the relevancy of Freudian psychology and other forms of psychological study to criticism; and the place of aesthetic judgment in practical reasoning in the conduct of everyday affairs. Aesthetics, as a realm of knowledge, has its content communicated in sensory form. In sum, the term is applied to the study of all the arts and manifestations of ***natural beauty*** (Encarta World English Dictionary, 1999).

By extension, Budd (1998) extrapolates that the first form of aesthetics represents the aesthetic appreciation of nature as essentially informed by ideas intrinsic to the appreciation of art, such as style, reference and the expression of

psychological states. In his view, in order for that curious feeling, the experience of the sublime – invoked, perhaps, by the immensity of the universe as disclosed by the magnitude of stars visible in the night sky to be aesthetic, or for you to delight in the beauty of a flower, it is unnecessary for you to imagine these natural objects as being works of art. The appreciation of them is determined by their lack of features specific to works of art and perhaps also by their possession of features available only to aspects of nature.

The second aspect, however, fails to expose the significance for artistic appreciation of various features of works provenance and its position in the artist's oeuvre. Although some issues are common to the two parts, many are specific to the philosophy of art and a few specific to the aesthetics of non-art objects. Moreover, not every object of aesthetic appreciation falls neatly on one side or the other of the art-non-art distinction, so that appreciation sometimes involves an element of both of artistic and non-artistic appreciation.

An object's beauty would appear to be relational, mind-dependent property. Both works of art and other objects can possess specifically aesthetic properties, such as beauty and gracefulness. If they do possess properties of this sort, they will also possess properties that are not specifically aesthetic, such as size and shape. The nature of aesthetic appreciation has often been thought that there is a particular attitude that is distinctive of aesthetic appreciation. One has to adopt a

positive attitude in order for the item's aesthetic properties to be manifest to us, and this attitude may put us in a state of aesthetic contemplation.

Another idea expressed in this discussion is the awareness of an object's aesthetic properties which is the product of a particular species of perception. This is an idea which stands in opposition to the claim that this awareness is nothing but the projection of the observer's response onto the object (Budd, 1998).

In contrast, Gyekye (2003) further indicates that beauty is considered a comprehensive aesthetic idea. According to him, in indigenous African societies, especially the Akans of Ghana, beauty is held as the central concept in an aesthetic experience. He reveals that different cultures hold different conception about what may be considered beautiful. Supporting the views of Gyekye (2003), the great German philosopher Immanuel Kant presented an explicit conception of and aesthetic judgment as a judgment that must be founded on a feeling of pleasure or displeasure; he insisted that a pure aesthetic judgment about an object is one that is unaffected by any concepts under which the object might be seen; and he tried to show that the implicate claim of such a judgment to be valid for everyone is justified. But how acceptable is his conception of an aesthetic judgment and successful is his attempted justification of the claims of pure aesthetic judgment (Kant, cited in Budd 1998).

However, Gyekye (2003) goes further to highlight a fact in African culture that "beauty is seen not only in works of art but also human beings" as well as the environment in which human beings live. In his explanation, it is obvious that beauty is not seen only in works of art and in the human figure but also in morals and behaviour and in humanity itself. This is exposed in the Akan language and culture, for instance, in which aesthetic expressions are used in describing moral behaviour as well as works of art.

Contrary to the views of Seamon (2005), Dean (2002), and Dutton (2005), Gyekye (2003) stipulates in his discussion that beauty in Akan – and, generally, African conception is a many-faceted notion, with much wider application. It is not just a feature of works of art, there is also the idea of beauty of speech, thought, action (behaviour), appearance, and of humanity itself. In his view, standards of aesthetic value are constantly impinging themselves on moral valuation; so that what is morally good also appears to the aesthetic sense.

In other words, the dual-faceted conception of art constitutes the basis of aesthetic appreciation and evaluation and gives rise to the aesthetic values held by the African people in traditional societies. Gyekye indicates that

> The objects that are aesthetically valued are works of art in fields of visual arts (such as painting and sculpture), verbal or literary arts (such as epic and dramatic poetry), and musical arts (such as dance and song). Equally valued aesthetically are events, scenes, the human figure, humanity itself, and morality (or moral behaviour).

> Beauty is the central notion in African aesthetics (as it is in the aesthetics of other cultures), but the scope of its application – reflecting the focus of its concerns – is much wider in the African aesthetic experience and valuation than it is in to the cultures (Gyekye, 2003).

2.2.1 Environmental Aesthetics

Being a new area of study in philosophy as a result of its valuable contribution in the defense of the environment, environmental aesthetics has been described as that area of aesthetics that focuses on philosophical questions concerning appreciation of the world at large (Carlson, 2002). The world is constituted not simply by some particular objects but by environments (organic and inorganic) themselves. By extension, however, environmental aesthetics extends beyond the narrow confines of the art and beyond the appreciation of works of art to the aesthetic appreciation of human-influenced and human-constructed as well as natural environments. Yuriko (2002) also reveals that environmental aesthetics as a newly emerging discipline was originally concerned with the aesthetic of natural environment, cultural landscapes, and (non-art) objects in general that make up our everyday environment.

As pointed out earlier in this chapter, it is imperative to reiterate that aesthetics deals with the ways in which humans experience the world through their senses. It is especially concerned with the appreciation of particular objects when they strike the senses in a pleasing manner. For this reason aesthetics most frequently

focuses on works of art and other similar objects that are explicitly desired for human sensory enjoyment. However, aesthetic appreciation is not limited to art; it is frequently directed towards the world at large. This is the world that humans in the day-to-day existence and thus constitutes the everyday environment: the world in which people work, play and live. Concisely, the aesthetic experience of this world is the subject matter of environmental aesthetics.

Looking at environmental aesthetics from a different perspective by limiting it to only nature, Fisher (2006) gives an influential argument that nature is regarded not as an adversary or resource to be subdued and exploited, but as something with an autonomous and worthy existence in itself. Additionally, wilderness is not regarded as "ugly or as a blemish on existence, but as something not only admirable but admirable aesthetically" (Fisher, 2000). Indeed, "environmental aesthetics" may apply naturally to the ensuing wave of investigation of the aesthetical of nature conducted under the influence of environmental concerns, thus, the rate at which the environment is being degraded and the need to protect it from further destruction. Berleant (1998) suggests that *environmental aesthetics* is actually the successor to *nature aesthetic*. Also important, however, is a broader use of the label championed by Berleant (1992) and Carlson (1992), who use it to cover aesthetic investigation of our experience of all sorts of environments, human made as well as natural. In this view, this broader

category or environmental aesthetics incorporates such diverse fields as city planning, landscape architecture and environmental design, and it is significant because, whether applied to nature or built environments, it directly challenges the "object-at-a-distance model associated with standard theories" in aesthetics (Fisher 2006). Accordingly, most of the work to be explored in this research will be of this specific sort. As Berleant acknowledges, "An interest in the aesthetics of environment is part of a broader response to environmental problems... and to public awareness and action on environmental issues" (1992 p.xii).

A renowned professor in Architecture, Planning and Fine Arts, Birgit (2006) states that environmental aesthetics has a broader definition, and this has been put in two distinct categories: Firstly, the study of environmental aesthetics tends to seek universal laws of human evaluation of the environment. According to him, some psychological research looks for perceptual and cognitive processes which form the basis for people's evaluation of environments. In his second thought, there is a distinction between the evaluation of objects and environments which parallels the environmental perception/cognition distinction. From these definitions, it is obvious that whereas the general meaning of aesthetics refers to the appreciation of objects which are bounded in space, often by an actual frame or display case, the environment extends infinitely and surrounds us. As one writer points out, "One can step back from a painting. In contrast, in a landscape the viewer is involved, environed,

enwrapped, and surrounded. He can go in, and is likely to experience not only the landscape but perhaps also himself in an unusual and vivid way" (Porteous, 1996).

Throwing more light on the meaning and characteristics of environmental aesthetics, Sepänmaa (2000) explains that:

> Art is an aesthetically developed and refined area. Only the senses of sight and hearing properly have their own art forms which have developed a language, and a technique… The aesthetic perception of the environment is clearly more total, the common result of general senses… environmental works that in a way are connected to the tradition of garden art, and landscape architecture…appeal to the senses of smell and touch (p. 45).

This suggestion reveals that aesthetic judgment of environmental works of art is challenging, because environments offer a broader perspective for philosophy of art, and aesthetics, than standard works of art. Aside from this notion, in environmental thinking and the attendant interest in environments in the broad sense some thinkers see implications for the general practice of aesthetics, a discipline which in the twentieth century persistently ignored nature in favour of theories based on the art. Environmental thinking, however, has begun to place strain on the assumption that aesthetic concepts drawn from the arts are also adequate to nature and everyday life.

Several arguments have been put across at the relation of beauty to environmental protection. In this view, it is deduced that if judgments of environmental beauty lack objective grounding, they would be seen to be a poor basis for justifying environmental protection. One of the first environmentalists to note this problem put it this way: "If aesthetic value judgments are ...personal and subjective there will be no way to argue that every one ought to learn to appreciate or regard natural beauty as worthy of preservation" (Loftis, 2003).

Even if one rejects the view that aesthetic judgments in general are subjective and relative, one might claim that they are in the case of judgments about environmental beauty. A view common in the philosophy of art is that although there is substantial objectivity in art, the aesthetic appreciation of nature is either thoroughly relative or much less constrained than the aesthetic appreciation of art (Budd, 2000; Fisher, 1998; Walton, 1970). Considering the views of these writers critically, it is deduced that they are of varied opinions as to whether the environment should be aesthetically judged on the grounds of the expressive features of the natural objects or the aesthetic properties of nature.

Such relativism would seem to be problematic for these hoping to use the environmental aesthetic value as support for environmental protection. A practical scenario is cited by Hettinger (2005) to illustrate an argument about this relativism:

> A community wanting to preserve the rural character of its environs against strip-highway, sprawl development argues that great aesthetic value would be lost if the peaceful, tranquil tree-lined boulevard that is punctuated by farmhouses, small fields, and ponds is replaced with the aggressive, cluttered, and gaudy strip-highway, sprawl of pawn shops, gas stations, and parking lots so symbolic of our society's careless exploitation and disregard of the natural world. The developers, on the other hand, argue that great aesthetic value would be gained by replacing the monotonous and boring, need-infested city roads with neat and useful shops that express hard work, determination, and entrepreneurial ingenuity (p. 12).

In this view, it is obvious that without some ability to distinguish between more and less appropriate aesthetic responses or better and worse aesthetic judgments about these environments, the appeal to aesthetic considerations would seem to be of little use to environmental protection or decision-making.

To establish more insight into the characteristics and functions of environmental aesthetics, it is imperative to fathom its in-depth meaning. From our earlier studies in this chapter it is clear that aesthetics, of which environmental aesthetics is an offshoot, is defined as the field of study that considers the ways in which humans experience the world through their senses. This special field of philosophy is concerned with the appreciation of particular objects when they strike the senses in a pleasing manner. But it is made implicit that aesthetics is not limited to only works of art, but the world that surrounds humans in their daily existence (Carlson, 2002). This premise underscores the fact that the aesthetic experience of this world is the subject matter of environment aesthetics.

Carlson (2002), however, defines environmental aesthetics as the area of aesthetics that concerns itself with the philosophical questions concerning appreciation of the world at large and, more over, that world as it is constituted not simply by particular object but also by environments themselves. Therefore, environmental aesthetics extends beyond the narrow confines of the art world and beyond the appreciation of works of art to the aesthetic appreciation of human-influenced and human-constructed as well as natural environments.

Environmental aesthetics dates back in the second half of the twentieth century. It is incidentally one of the areas of aesthetics developed in that era (Allen, 2002; Frolov, 1984; Kennick, 1979; Budd, 1998; Hettinger, 2005). At its emergence, environmental aesthetic considers the aesthetic appreciation of humans as well as natural environments, and it has its roots in earlier traditions that involve the aesthetic experience of nature. During its development, it has been influenced by eighteenth-century landscape aesthetics together with notions such as the *sublime* and the picturesque. Nonetheless, there are important differences in emphasis between eighteenth-century aesthetics and current environmental aesthetics; differences that stem in part from that after reaching its climax at the end of that century, the former went into gradual decline and by the 20th century was almost totally eclipsed by the philosophy of art. Thus, to some extent environmental aesthetics had to be fashioned anew in the second half of the twentieth century.

It is appropriate to suppose that the *aesthetic* value of an item increases with its aesthetic *quality*. Applying this relation to nature seems to imply that some parts of nature have greater aesthetic value than other parts. Some thinkers (Thompson, 1985) accept this, but many others reject the idea that nature can be aesthetically evaluated and ranked in a way parallel to artworks.

A common view among environmental thinkers about environmental aesthetics is dubbed "positive aesthetic". The strongest version of this position holds that all virgin nature is beautiful (Carlson; 1984 p.10). A weaker formulation is that the "natural environment in so far as it is untouched by man, has mainly positive intense, unified, and orderly, rather than bland, dull, insipid, incoherent, and chaotic" (Carlson, 1984 p.5). The weaker version clearly does not entail that all parts of nature are equally beautiful, and so it may leave undefended the claim implied by the stronger version, namely, that we cannot maintain that one part of nature is aesthetically better than another part. The proponent of positive aesthetics rejects conventional aesthetic hierarchies concerning nature---e.g., injustice mountain vs bland savannah vs dank swamp. Although the aesthetic evaluation of artworks may vary from great to mediocre to poor, and their qualities from beautiful to boring to ugly, this is exactly what is different about nature, according to positive aesthetics. Positive aesthetics can be understood as the result of two intuitions. First, that aesthetic assessment of art involves criticism, judgment and ultimately *comparison*. But such comparative judgments

are appropriate only for artifacts, which are intended to be a certain way or to accomplish certain goals, not for nature. Second, our tendency to find some parts of nature bland, boring, or even distasteful is all based on projecting inappropriate ideas or comparisons onto the objects of our experience, e.g., looking for a view that is similar to a beautifully framed and balanced art representation or looking at a dark forest as full as evil spirits (Fisher, 2005). Nature properly understood---e.g., against a background of biology, geology, ecology---is, as a matter of fact beautiful (or at least aesthetically good) in many ways.

Within the generic category of art *about* nature, we can define the familiar genre of "nature art" as representations of nature in any art medium --- principally, literature and the visual arts--- that have nature, not humans, as their foregrounded subject. In addition, nature art is usually thought of as exhibiting the same favourable regard as positive aesthetics; even fierce, barren or threatening landscapes are presented as being admirable or as having positive aesthetic features.

Although nature art inspires appreciation of nature, one poses the question whether it reflects the aesthetics of nature as environmental aesthetics. One aspect of this broad question can be stated as follows: can works of art exhibit or represent the aesthetic qualities of the nature represented?

Carlson (1997) gives an influential argument endorsed by Carroll (1993) – for rejecting the "object" and "landscape" models of nature appreciation that appears relevant to the question of aesthetic adequacy. Based on art appreciation, these models, involve looking at objects in nature for their formal and expressive qualities, abstracting them from their context as if they were sculptures, or framing and perceiving sites as if in a landscape painting. Carlson argues that neither of these methods respects the actual nature of nature. To appreciate nature as nature, we must regard nature as an *environment* (broad sense) and as *natural*, not as art. This means that we cannot, as in the object model, remove objects from their environments. If we remove them, even notionally, we change their aesthetic qualities, which the objects have only in relation to the whole environment. For example, a rock considered by itself may lack the qualities that it has in nature, where it is related to the forces that shaped it (glaciation, volcanism, erosion). The problem with the landscape model is that it involves perceiving nature "as a grandiose prospect seen from a specific standpoint and distance" (p.131). Carlson describes appreciating nature this way as dividing nature up into blocks of scenery to be viewed from a certain vantage point "not unlike a walk through a gallery of landscape paintings" (p. 132). But, as Carlson notes, "the environment is not a scene, not a representation, not static, and not two-dimensional" (p.133)

Different issues are raised by non-representational art about nature, for instance, artworks that incorporate natural objects, sites or processes as elements. Such features by themselves, of course, do not necessarily determine that an artwork is about nature. Some artworks that superficially relate to a natural site, such as sculptures placed in a natural setting (e.g., sculpture parks), as well as works that use natural elements, such as Jeff Koons' Puppy (1992) (a 43-foot high West highland terrier form covered with thousands of live flowers) are plainly not about nature. Carlson helpfully defines the class of "environmental artworks" as works that "are in or on the land in a way such that part of nature constitutes a part of the relevant object. . . not only is the site of an environmental work an environmental site, but the site itself is an aspect of the work" (1986, p. 636).

Given the deep divide separating the arts and environmental thought, it is essential to contrast their perspectives concerning this large domain of artefacts. From the perspective of the arts, attention naturally focuses on how to interpret and appreciate environmental works as art: What issues about nature and culture does the artist deal with? How does the piece relate to trends in recent art? So, for example, Gilbert-Rolfe (1988) interprets Smithson's Spiral Jetty in relation to film: "In Smithson the idea of the work lies as much in the film of the work as in the work" (p. 72). And, Smithson (1973), as theorist of earthworks art, interprets Central Park as a landscape inspired by the 18th-century picturesque. Finally, Ross (1993) proposes that environmental artworks as a class are the

descendants of the 18th-century high art of gardening, that "environmental art is gardening's avant-garde" (p. 153).

There is also the issue of whether gardens and parks, the environments seemingly intermediate between the arts and nature, are full-fledged artworks. Certainly many examples of both types of artefact have a strong claim to the status of art. Smithson (1973) argues, for example, that New York's Central Park is a great artwork, exemplifying many of the dialectical principles of his own earthworks. Miller (1993) urges that gardens constitute an artkind, on a par with painting or sculpture. This is so clear that it leads to a puzzle: "Why then, if current theories of art show no grounds for excluding them . . . and if gardens have a history of being regarded as an artkind and can be shown to have form as beautiful, as original, and as self-conscious as the other arts, are gardens currently excluded from the category of art?" (p. 72). She resolves this by noting the ways that gardens--by their essence tied to particular sites, ever-changing because of the natural elements, etc.--present multiple challenges to standard preferences of art theory, such as for complete artistic control of the work and for consistent qualities of the work over time.

From the perspective of environmental thought, with its inherent rejection of any activity or stance that regards nature as something to be used or as something whose purpose is to be determined by cultural perspectives, however, the issues

point in a different direction, toward how environmental artworks deal with nature. Thus, because earthworks since their inception have often inspired opposition from environmentalists, it is not surprising that the question whether environmental artworks are an *affront* to nature has been explored (Carlson, 1986). Less severe questions can also be raised, such as whether environmental artworks are based on an adequate conception of nature and whether they enfranchise an appropriate aesthetic relationship with nature. Topiary, for example, is intriguing as an art form. But by imposing artificial (geometric, representational) forms onto natural objects (trees and shrubs) topiary does not illuminate the aesthetic properties of nature as nature; it not only suggests that nature can be improved upon aesthetically but that nature provides sculptural material to be manipulated.

Ross (1993) divides environmental art into some categories, such as "masculine gestures in the environment" (Heizer, Smithson, De Maria); "ephemeral gestures in the environment" (Singer, Long, Fulton, Goldsworthy) and "proto-gardens" (Sonfist, Irwin). Some of this work is clearly troubling in how it uses and/or regards nature, for example, Heizer's Double Negative (1969-70) (a 50'x30'x1, 500' bulldozed double cut in Virgin River Mesa, displacing 240,000 tons of rhyolite and sandstone) and Christo's Surrounded Islands (1983) (11 islands in Biscayne Bay surrounded for two weeks by sheets of bright pink plastic floating in the water extended 200 feet from the islands into the Bay).

Carlson (1986) rebuts several common defences of such intrusive artworks, e.g., that they are temporary (Christo), that they improve nature or that the artist's actions are no different than natural processes altering a site (Smithson's argument). In spite of this, there are other works on environmental art, such as Sonfist's Time Landscape (1965-78), in which he attempts to recreate an urban area's lost native flora on a vacant urban lot, which cannot be regarded as affronts to nature, since they do not alter natural aesthetic qualities. Because they respect nature as nature, such works, as well as the conceptual walks and environmental gestures of Long, Fulton and Goldsworthy can also be regarded as adequate aesthetically to nature, that is, as reflecting the actual aesthetic qualities of nature.

Still, there remains a nagging question: Can this art contribute to the appreciation of nature? Carlson (1986) wonders why the aesthetic interest of nature can only be recognized if it is first considered as art. There seems, in fact, to be a dilemma. Either a work alters nature (e.g., "masculine gestures"), in which case, it may affront and misunderstand nature as nature, or it does not (e.g., "ephemeral gestures"), in which case, what does it add to the appreciation of nature? It might be replied that at least such art leads the viewer to notice aspects of nature that had escaped her attention. But more might be claimed. The arts have always been one way to explore the world and our feelings and ideas about it. Environmental art explores our ideas about nature and our changing relations

with it. Therefore, works may not always express the most environmentally enlightened perspectives, and works in the past--e.g., formal gardens--probably did not. Still, are inadequate conceptions of nature entirely wrong? Can't there be aspects of nature that are brought out by even such works? Moreover, those environmental artworks that do adopt environmentally enlightened perspectives can be viewed as addressing in unique ways questions about how we can interact with nature aesthetically while respecting nature as nature.

Extensive studies have been done on this field of study by Carlson (2000) and he has produced a series of essays that have provided fresh insights into environmental aesthetics. Some of these pertinent issues are highlighted in his book *Aesthetics and the Environment*. According to Newman (2006), Carlson discussed topics that range from the aesthetic appreciation of nature, through aesthetic appreciation, in general; to historical questions concerning formalism and the aesthetic attitude; to the aesthetics of environmental art, Japanese gardens, architecture, landscapes in literature; and the aesthetic appreciation of agricultural landscape. Carlson's work is therefore philosophically aesthetic at its best, and it is tightly beneficial to environmental protection. By contrast, the proper relationship for aesthetically appreciating nature is to be situated within a natural setting that one's perceptual systems experience as an environment.

Environmental aesthetics, unlike typical traditional aesthetics, incorporates various kinds of empirical work done on the human aesthetic experience of environments. (Carlson et al 2000). One important field of study grew out of the environmental design and planning disciplines, such as landscape architecture. Attempts have also been made in this area to analyse and assess aesthetic experience in terms of the design features recognized and valued by these disciplines. Secondly, resource and recreational management that focuses on measuring aesthetic preferences of different individuals for different environments. In addition, there are socio-biological underpinnings for the appreciation of environments as well as attempts to apply to such appreciation of aesthetic experience grounded in, for instance, developmental and environmental psychology. Lastly, there is a philosophical side of environmental aesthetics.

The central philosophical issue of environmental aesthetics is determined in large measure by the contrast between the nature of its objects of appreciation and the nature of works of art. Paradigm works of art are more or less discrete, stable and self-contained objects of appreciation, typically meant to be appreciated with specific senses and form particular distances and positions (Goodman, 1988). Each of these features is in marked contrast with those of the objects of appreciation of environmental aesthetics. Since these objects are everyday environments, appreciators are immersed within the objects of their

appreciation, or at the very least not separated from them by preordained distance or at particular positions. Moreover, no specific senses are required; as appreciators occupy or move around and among such objects of appreciation, they see, hear, feel, seem, and perhaps even taste. These aspects of the experience and intensified by the open, unlimited and promiscuous nature of the objects themselves. They change as appreciations move and change of their own accord. They are constantly in motion, and with the passage of time changes continue without limit. There are no frames for environments - either in time or in space.

These differences between the objects of appreciation of environmental aesthetics and paradigm works of art relate to what is perhaps the deepest difference between the two. Works of art are the creations of artists. Artists are intentional human designers, typically creating works of art by working within artistic traditions and by embodying designs in objects. Thus, works of art are tied to artists, artistic traditions and designs both causally and conceptually: these determine both what works of art are and what they mean. By contrast, the objects of appreciation of environmental aesthetics are not typically the creations of artists. They come about naturally; they change, grow and develop by means of natural processes. Even when environments are human-influenced or human-constructed and thus involve human agency, only rarely are they primarily the products of designers working within traditions and embodying designs.

The upshot is that aesthetic experience of the world at large is seemingly very different from the aesthetic experience of art. In the former case, unlike the latter, appreciators are confronted by, it not intimately and totally immersed in, objects of appreciation that impinge upon all their senses, are constantly in motion, are limited in neither time nor space and are of a non-predetermined nature and meaning. Appreciators are within and among objects of appreciation and their task is to achieve aesthetic appreciation of those objects. Moreover, appreciation must seemingly be achieved without the aid of frame, the guidance of artistic traditions or the direction of artists and their designs. Thus, in order to treat the aesthetic appreciation of the world at large, environmental aesthetics must begin with basic questions, such as what to appreciate and how to appreciate it (Carlson, 2002).

Studies of environmental aesthetics offer a good opportunity to explore Berlyne's (1974) suggestion-taken up with a different perspective by Russell and Snodgrass (1987) -, making possible, moreover, an interesting connection between basic and applied psychology. Environmental preference judgments as conceptualized and operationalised in the review studies represent a clear example of the responses Russell and Snodgrass (1987) class as affective appraisals. The works of Russell (1980) and Russell and Pratt (1980), identifying the main affective responses manifested by individuals in relation to their physical environments constitute, on the other hand, a valuable conceptual and empirical tool for approaching the

study of states of mood that appear to be related to effective psychological functioning. The mentioned authors propose a model of affect that incorporate just two bipolar dimensions, considered as independent, to explain the variations in quality and intensity of environmental affect: the factors of pleasure and arousal, relevant dimensions proposed by Berlyne in the explanation of aesthetic judgments. Thus, for example, a situation that combines high levels of pleasure and arousal will be "exciting", a situation that combines high levels of arousal and displeasure will produce "distress" a situation that is very pleasant but not very exciting will produce "tranquility" and, finally, a situation will produce low levels of both arousal and pleasure which will be "boring". In this way, Russell and Pratt reject the need to consider the power-dominance dimension, sustained empirically by the wealth of studies and semantic differential developed by Osgood and collaborators (Osgood, Suci and Tannenbaum, 1957).

In recent years there has been a dramatic expansion of the range of studies, policy directives and initiatives with the environment. For the most part these are unphilosophical, pragmatic responses to perceived threats of pollution and other forms of environmental degradation. However, they invariably presuppose certain conceptual and normative commitments, and the examination and evaluation of these have been a major concern of environmental philosophy. To date the primary focus of interest has been on ethical and political values, but

there is a developing sense of the need to consider issues relating to the aesthetics of environment.

Bardy (2003) has made a systematic account of aesthetics in relation to the natural environment by providing critical understanding of what aesthetic appreciation of nature involves and develops her own distinctive aesthetic theory. In particular, she develops a theory of aesthetic appreciation which integrates subjective and objective approaches. Among some topical issues discussed which bring together philosophical aesthetic and environmental philosophy are: the character of aesthetic appreciation of nature; art and environment; imagination, emotion and meaning in aesthetic appreciation of nature; justification of aesthetic judgments of nature; the intersection between aesthetic and ethical value; and the role of aesthetics in nature conservation and environmental policy.

The degree to which nature has been unaltered by humans is an important facet of its value and some dimensions of this value might be appropriately conceived as aesthetic. However, the extent of human manipulation of a natural area is not a reliable gauge for how much aesthetic value it has. Human manipulation of nature produces a wide variety of outcomes, including, on the one hand, flower gardens, farm fields, and architectural marvels, and on the other hand, oil-soaked beaches, clear-cut forests, and billboards (Carlson, 2003). Although the

former are superiors aesthetically to the latter they may seem to involve more rather than less human manipulation of nature. Furthermore, equating how wild a natural area is with how aesthetically valuable it ignores that human history of a landscape can add or rather detract from our aesthetic appreciation of it.

In conclusion, environmental aesthetics should play a significant role in environmental protection. Clarifying the issues discussed it is obvious that there arose the argument between relativity and objectivity in environmental aesthetics, which are important for such aesthetic protectionism. One needs to develop and justify an account of better and worse aesthetic responses to the environment and avoid an anything-goes-relativism. There are a variety of positions in environmental aesthetics that provide dimensions of objectivity for aesthetic protectionism. A knowledge-based environmental aesthetic can be useful for aesthetic protectionism, but it is not the only such useful environmental aesthetic and it does not guarantee beneficial environmental results.

2.3 Environment

The Encarta World English Dictionary (1999) defines environment as the natural world within which people, animals, and plants live. This book further explains that the environment is regarded by many as being at risk from the harmful influences of industrialized societies. Encyclopedia Britannica (Vol.4) also defines

the environment as the complex of physical, chemical, and biotic factors that act upon an organism or an ecological community and ultimately determines its form and survival. Aside from this, the Webster's new international Dictionary of the English Language (1950) also defines environment among others as the aggregate of all the external conditions and influences affecting the life and development of an organism. These, by extension, are the factors surrounding or affecting human beings.

Clearly, the above definitions regard environment as a social environment which comprises all things due to activity and this is again sub-divided into:

(i) Physiological environment which consists of buildings, roads and all manufactured objects; and

(ii) Biosocial environment comprising domesticated plants and animals; and finally

(iii) Psychosocial environment, comprising human behaviour, customs, laws, languages, etc.

In another development, Cunningham and Cunningham (2002) explain that environment (taken from the French word *environner*: to encircle or surround) can be clearly defined as (i) the circumstances and conditions that surround an organism or group of organism, or (ii) the social and cultural conditions that affect an individual or community. This presupposes that humankind inhabit

two worlds. One of these is the natural world of plants, animals, soils, air and water. The other is the world of social institutions and artefacts that are created for us with the employment of science, technology and political organization. Assessing their relevance both worlds are essential to the lives of man, but obviously, integrating them successfully causes enduring tensions.

Considering the above definitions from a different perspective, it supposes that man was born into an existing surrounding which is called his environment. This immediate surrounding of man is composed of so many component parts; the gaseous envelope surrounding us, the aqueous world and the solid terra firma or firm earth on which the vegetative and animal world including man himself inhabit. Within the psychosocial environment is the landscape within which man creates his towns and cities (Adjei, 1994).

Additionally, the World Book, vol. 6, (2001) supports and reiterates Cunningham and Cunningham's definition of the environment that it is everything that is surrounding to an organism. This implies that there are other "creatures" that are external to humans.

A human being's environment includes factors such as temperature, food supply, and other people. It further expatiates that the environment may be categorized into two (i) a*biotic environment*, and (ii) *biotic environment*. Non-living

environmental factors, such as temperature and sunlight, make up the abiotic environment. Living things such as seaweed and food make up the biotic environment. Both the abiotic and biotic environments interact to make the total environment of living or non-living things.

Obviously, a very important part of a person's biotic environment is the social or cultural environment. Human beings have developed their mental faculties which have resulted in the development of religion, art, music, literature, technology and science. These cultural inheritance and biological inheritance of human beings have, therefore, enabled them to advance beyond any animal in controlling their environment. As a result, man's activities in his environment have diversely impacted the aesthetics of the environment in both negative and positive directions.

The natural environment induces a revealing sense of aesthetics which if not satisfactorily appreciated one may be tempted to lose sight of its enjoyment. Absence of the joy and visual satisfaction that may be derived from the environment exposes its non-protection.

However, Carlson (2005:6), states that though the environment may be considered as a non-art, in most of its forms, many believe that,

> far stronger moral and utilitarian values can be pressed into the service of environmental protection, and hence that it is neither necessary nor important to stress aesthetic values. Others argue that aesthetic value is anthropocentric and instrumental and thus provides an inappropriate basis for environmental protection. Nevertheless, a widely-assumed rationale for environmental protection is to prevent the loss of aesthetic value resulting from environmental degradation.

The views expressed above show the importance of the environment to man and the need to protect it from further degradation so that its aesthetic values can be appreciated by humans. Even though science and technological advancements are some of the causative agents to the destruction of the environment, the present researcher suggests that some useful components of science and technology, alongside socio-cultural activities can form integrative synergies to ameliorate this environmental malady.

Furthermore, the environment is defined as a thin layer of life and life-supports called the biosphere, including the Earth's air, soil, water, and living organisms, (Microsoft Encarta Encyclopedia: 2003). It further explains that the environment consists of the ***atmosphere*** that shelters the Earth from excessive amounts of ultraviolet radiation, and ensures the continuity of life through gaseous mixture of nitrogen, oxygen, hydrogen, carbon dioxide and water vapour. It also has other elements and compounds, and dust particles which help the environment to function naturally.

The contributors also state that the environment is heated by the sun and by radiant energy from the earth, and this makes the atmosphere circulates about the planet and modifies temperature differences. Of the earth's water 97% makes up the oceans, 2% is ice, and 1% is fresh water in rivers, lakes, groundwater, and atmospheric and soil moisture. The soil is the thin mantle of material that supports terrestrial life. It is the product of climate, parent material such as glacial till and sedimentary rocks, and vegetation (Microsoft Encarta Encyclopedia: 2003). Dependent on all these are the earth's living organisms, including human beings. Plants use water, carbon dioxide, and sunlight to convert raw materials into carbohydrates through photosynthesis; animal life, in turn, is dependent on plants, in a sequence of interconnected relationships known as the food web.

This explains the natural order of the environment. However, as stated earlier in this chapter man's quest for intellectual development through science and technology, the beauty (*aesthetics*) that the natural environment induces has been tampered with gravely. In the views of some authorities (renowned environmentalists), the earth and for that mater, the environment has changed gradually. Continental drift separated land masses, oceans invaded and retreated from the land, and mountains rose and were worn down, depositing sediments along the edges of seas. Climates warmed and cooled, and life forms appeared and disappeared as the environment changed. The most recent major

environmental event in the Earth's history occurred in the Quaternary period, during the Pleistocene epoch (between 2.5 million and 10,000 year ago), also known as the Ice Age. The subtropical climate was destroyed and the face of the Northern hemisphere was reshaped. Ice sheets advanced and retreated four times in North America and three times in Europe, swinging the climate between cold and temperate, influencing vegetation and animal life, and ultimately forming the environment as it exists today (Microsoft Encarta encyclopedia, 2003).

This historical account reveals that there has been a gradual change in the environment before the conscious and accidental intervention that has aggravated the situation. Wright (1993) has pointed out that "…at some point in the past human numbers and skills began to leave a recognizable imprint upon this natural order." He states further that while human numbers remained small and the technology limited, interference was patchy, rarely of long duration, and largely restricted to modifications of the vegetation. This indicates that they have not only greatly altered the patterns of the natural vegetation, but they have modified soil conditions over large areas, changed the composition of the surface and thereby altering the aesthetic nature of the environment which has affected aesthetic consciousness of mankind.

In the view of some authorities, the environment is simply defined as the world in which an agent operates (Carwardine, 1990; Davidson, 1988). This definition is probably closely related to the ecological definition of the environment as the factors which might affect organisms, including abiotic influences (soils, air, temperature, rainfall, etc.) and biotic influences (other organisms). It is imperative therefore to indicate that every organism and inorganic matter found in the environment has some aesthetic qualities that need to be appreciated and enjoyed. However, to perpetuate this natural phenomenon, there is the need to protect the environment. Carroll (1993), however, gives an explicit account of an aesthetic emotional arousal by nature that can solve the problem of aesthetic focus on the environment:

> Certain natural expanses have natural frames or what I prefer to call nature closure: caves, copses, grottoes, clearings, arbors, valleys, etc. And other natural expanses, thought lacking frames have features that are naturally salient for human organisms ---i.e., they have features such as moving water, bright illumination, etc., that draw our attention instinctually toward them. (p. 34)

Finally, environment is a clear concept which includes all aspects of the surroundings of humanity, affecting individuals and social groupings. The European Union has defined the environment as "the combination of elements whose complex interrelationships make up the settings, the surroundings and the conditions of life of the individual and of society, as they are or as they are felt". The environment thus includes the built environment, the natural environment and all natural resources, including air, land and water. It also

includes the surroundings of the workplace. (Source: GILP96) (European Environment Agency (EEA), European Topic Centre on Catalogue of Data Sources (ETC/CDS): General Multilingual Environmental Thesaurus *Term Detail*) URL http://www.epa.gov./trs/ retrieved February 1st, 2006.

2.3.1 Environmental Risk Assessment

Environmental Risk Assessments (ERA) evaluates risks to species (including people), natural communities and ecosystem processes. This helps us to make decisions when individuals are uncertain about future events (Burgman, 2005). Stakeholders such as epidemiologists, toxicologists, engineers, ecologists, geologists, chemists, sociologists, economists, foresters were mentioned as people who conduct environmental risk assessments routinely. However, the aesthetician whose adept knowledge of beauty could equally be harnessed to evaluate the environmental problem and practical artistic solutions are suggested for its protection.

It is obvious that in environmental risk assessment various different tools for risk assessment are developed to serve different needs. It also recommends a broad frame work that encourages honest and complete environmental risk assessments.

Additionally, all risk assessments involve all kinds of uncertainties, only some of which may be quantified. Even quantified uncertainty comes in different forms. A practical example is given by Burgman (2005) to expatiate this assertion:

> ...we may measure directly the strength of a wall, the flow rate of a chemical through soil, or the birth rate of a threatened species. We may estimate them from scientific theory. If theory or direct measurements are unavailable we may extrapolate from data from similar systems or circumstances and assume our system behaves the same way. Extrapolations are dangerous but may be better them nothing. We may turn to what is often the weakest kind of evidence (p. 67).

Furthermore, ultimate environmental thresholds assessment reveals that based on the assumption that there are environmental thresholds which, if exceeded, may mean serious, perhaps difficult-to-rectifying changes, possibly on a large, even global scale may be indicated (Barrow, 1997). Kozlowski, 1986 cited in Barrow, 1997) defined thresholds as "stress limits beyond which a given ecosystem becomes incapable of returning to its original condition and balance". In the author's view, it is possible to recognize temporal, quantitative, qualitative and spatial dimensions of these thresholds and to seek to assess their present and future status.

Barrow (1997) further examines how important aesthetics is in environmental impact assessment. He states that aesthetic impact assessment is used within land capability assessment. Although concern for visual impact has dominated

aesthetic assessment, it also involves other parameters, often ones that are very difficult to evaluate, and may draw on psychology and the arts (Bagley, 1972; Dearson, N. Associates, 1984; Roebig, 1983; Hyman and Stiftel, 1988; Canter, 1996 cited in Barrow, 1997).

A particular landscape or architecture may give a sense of surprise, a tactile or other sensory effect, not just a visual impact. For example, some people may rate a flowing stream more highly than a slow-flowing river; or a perfectly good Tudor-style house may not 'fit' a neighborhood. Incidentally, culture plays a crucial role: an eighteenth-century Middle-class Englishman would probably have disliked wild scenic landscapes, preferring tamed and cultivated vistas; his late twentieth-century equivalent may well profess the opposite view (Bagley, 1972).

In analyzing this form of environmental assessment it is suggested that visual impact can be assessed by using photo-montage or video simulation techniques, or by estimating degree of intrusion, surprise effects, etc. from construction plans and local topographic maps. By selecting the right site, construction style and colour, visual aesthetic impacts may be controlled. In effect, consumer tastes may be satisfied or the development camouflaged.

2.3.2 Environmental Impact Assessment

In another development, Environmental Impact Assessment (EIA) concerns itself with the prediction of the environment consequences of a formal proposal to introduce laws, to implement policies and plans, or to undertake development (Microsoft Encarta Encyclopedia 2003: CD:/ Environmental Impact Assessment). EIA, which was first introduced in 1969 in the United States, was basically a requirement of the National Environmental Policy Act (NEPA). Evidently, several other countries have embraced this act since its introduction by introducing legislation and establishing agencies with responsibility for its implementation.

As a mitigatory procedure, EIA has mostly been applied to individual projects and has led various offshoot techniques such as health impact assessment and social impact assessment. Additionally, recent developments include cumulative effects assessment and strategic environmental assessment – the latter is concerned with environmental assessment at the level of policies, programmes, and plans.

The city of today is a major performer for the secondary sector of the economy. Manufacturing and processing facilities not only provide the city with the essential commodity impacts but also provide the means of living for the populace. Of late, ad-hoc decisions for industrial development have led to an

adverse impact on the local environment at costs which are much higher then the benefits actually accrued (Manu and Ansher 2006). In view of the deteriorating environmental conditions in and around industrial townships, it has become necessary to account for the environment while planning for such areas.

Environmental Assessment is taken up in this exercise as a rapid assessment technique for determining the current status of the environment and identifying impact of critical activities on environmental parameters. Roebig (1983) indicates that based on this analysis we can draw up an Environmental Management plan that would ensure impact monitoring and mitigation planning.

Several environmentalists agree that Environmental Assessment enables us in carrying out Environmental Cost-Benefit analysis of projects at an initial stage. It is thus a pre-cursor to detailed analysis of environmental impacts, which are taken up only if a need for the same is established. It gives a view of the actors involved in the development – environment linkages. This is required in view of the fact that the community at large is always at a loss in terms of deterioration of living environment that accompanies industrial development. Based on environmental Assessment, the regulatory measures can be identified and the roles of concerned agencies defined for achieving more efficient environment management.

In view of the fact that development is an ever growing process, its impact on the environment is also ever increasing, leading to rapid deterioration in environmental conditions. As such Environmental Impact Assessment provides a rational approach to sustainable development.

As stated earlier on the phrase "Environmental impact Assessment" comes from Sec. 102(2) of the National environmental policy act (NEPA), 1969, USA. (Manu and Anshu, 2006).Some rudiments of EIA are implicit even in early examples of environmental legislation. Napoleon in 1910 issued a decree which divided noxious occupations into categories: those which must be far removed from habitations, those which may be permitted on the outskirts of towns, and those which can be tolerated even close to habitations, having regard to the importance of the work and the importance of the surrounding dwellings.

EIA, in brief, extrapolates from scientific knowledge to assess the problem consequences of some human interventions on nature. Although EIA uses the techniques of sciences, it differs from ordinary scientific inquiry, because it is dealing with events which have not yet occurred, may not occur, and whose chances of occurrence may be changed by the very statement that they may occur (Manu and Anshu, 2006).

From the foregoing discussions it is obvious that the Environmental Impact Assessment should have the following objectives:

i. Predict environmental impact of projects.

ii. Find ways and means to reduce adverse inputs.

iii. Shape project to suit local environment.

iv. Present the predictions and options to the decision-makers.

To this end EIA statement should cover brief description of project, brief description of existing environment, likely impact of project, the mitigation and protection measures, consideration of alternatives, and summary with conclusions.

2.3.3 Environmental Ethics

Historically, some commentators have attributed current environmental problems to the Judaeo-Christian tradition, which, as in Genesis, appears to confer upon humanity dominion over nature. (Microsoft Encarta encyclopedia 2003: CD/*Environmental Ethics*). However, contrary to this interpretation of biblical scriptures, the same source reveals that the Judaeo-Christian tradition spelt out stewardship as the basis of a new ethic of caring for nature. This implies that even though God gave mankind the authority to make good use of the environment, he also expected man to account for this stewardship by protecting it (Barrow, 1997). The resultant effect of man's failure to hold in high esteem this stewardship is degradation of the environment.

Developing the interest in the conservation of the natural environment started only in the 1800s (Wright, 1993). A typical example of the creation of wilderness is the Yellowstone National Park in Wyoming, in the United States, as areas of spiritual refuge. Locally, the Kakum National Park, the Monkey Sanctuary, Aburi Botanical Garden, Digya National Park, Mole National Park, Kalakpa Game Production Reserve and KNUST Botanic Garden all in Ghana ; Saiwa Swamp National Park, Mwingi National Reserve and Masai Mara National Park all in Kenya, etc. are some preserves of the natural environment.

In evaluating the historical background of environmental ethics Carlson (2005) describes environmental ethics as the discipline that involves issues that arise when human beings deliberately or accidentally interfere with the natural environment. Carlson further explains that this field does not only seek to evaluate past and present attitudes and practices, but seeks to offer guidance as to how people ought to think about, and conduct, their relationship with the natural environment. He supports this argument by stating a practical example that environmental ethicists debate whether the natural environment is simply an exploitable resource for human interests, or whether it has significance independent of any use that might be made of it; a value that ought to constrain certain practices.

2.3.4 Environmental Degradation

Since time immemorial man's daily activities in order to sustain his livelihood have had devastating effects on the environment. The resultant effect is causing harm to the natural environment. This natural cyclical phenomenon is what is termed as environmental degradation. Even though the exact impact of man's conscious decisions on the environment cannot be quantified in real terms, the cumulative effect of all individuals is enormous. The attempt to make a living and improve general life is going on everyday and with the passage of time such decisions cannot be said to be free from causing harm to the natural environment (Twerefoo, 1996).

Environmental degradation, as a technical term, has been defined and used differently by many writers over the years. United Nation environmental programme (UNEP) defines "degradation" as a process leading to desertification or the reduction in the capacity of the land to satisfy a particular use such as crop production (FAO / UNEP, 1983).

Environmental degradation may also be seen as the degradation of the terrestrial, aquatic and atmospheric systems which indicate that our surroundings can no longer support our needs as a result of pollution to the land or air, erosion, deforestation, alkalinity, salinity and water pollution. In a typically degraded environment it is expected that soils would be less supportive

of agriculture. It is associated with high evaporation and fallen water table, diminished vegetation, erratic rainfall and high temperatures. Another characteristic of a degraded environment is the low production of biomass and a reduction in land diversification (UNEP, 1997).

Several factors have accounted for environmental degradation. Wright (1993) pointed out that the natural environment and for that matter vegetation is in a near-continuous state of change produced by evolutionary forces as well as environmental developments. Evidence for this is found in the fossil record and through the technique of pollen analysis very detailed changes are now recognized, especially those that have occurred in the last two million years. According to Wright (1993), these evolutionary and environmentally induced changes continue to the present day but now, additionally, change (or degradation) is produced by human agency.

Wright further states that degradation induced by human agency may be geographic, botanic or economic. Geographically, species expands its range when introduced to new areas, for example, the flowering cherry (Prunus), which was originally limited to East Asia. The introduction of this exotic species in a new setting changed the original aesthetic outlook of that environment. Botanically, a plant breeding may produce cultivars, for example, wheat and barley. Lastly, it may be economic in the sense that one type of vegetation is

replaced by another more valuable form or more frequently that the vegetation is utilized for economic purposes such as grazing timber and wood production.

As pointed out above, the consequence of this human action (deliberate or accidental) is that the natural environment is not only subject to degradation, it is also under serious threat that surpasses even that imposed upon it by the onset of the Quaternary glaciations (Wright, 1993). Aside from this phenomenon, some extinctions may occur and widespread latitudinal displacement takes place and the overall result is an adjustment to the environment. The threat imposed by *homo sapiens* may be so great that reversion might be impossible even after some catastrophe has engulfed the human species. For this reason, Rackham (1989) points out that there is at the moment more than a hint of permanent loss of natural habitat.

In another development, environmental degradation is considered as the widespread decline in the ability of ecosystems to produce the goods and services on which we currently depend (Cunningham and Cunningham, 2002). This information was published by the world Resources Institute, the United Nations, and the World Bank in 2000, after a study had been conducted by more than 175 scientists to assess the health of global systems. Their result showed that half the world's wetlands were lost in the last 100 years, while logging and land conversion have shrunk the world's forests by as much as half. Also, nearly

three-quarters of the world's major marine fish stocks are overfished or are being harvested beyond a sustainable rate, and soil degradation has affected two-thirds of the world's agricultural lands in the last 50 years.

Invariably, in attempting to define environmental degradation, one has to be subjective. Thus, the concept of degradation is therefore perceptional. As a perception concept it is open to multiple interpretations (Twerefoo, 1996). For example a pastoralist would not perceive the replacement of a forest by a savanna with greater carrying capacity for ruminants as degradation.

Hence, any attempt at defining the term environmental degradation, would have to consider social conflict over the use of land. The changes that occur should, probably, be assessed in social terms and not in terms of the physical conditions, various studies have shown that degradation can occur with or without human interference. As such, in defining both natural and human interference, one does not need to be only deleterious but also restorative. As a result, degradation is sometimes considered as a product of both human and natural forces.

There has seen a long standing debate about the rate of environmental degradation, dating back to the fifth century BC. When Aristotle declared that the cedar of Lebanon was getting scarce each passing day (Aristotle 1946). This

debate has continued up to date because the issues that cause environmental degradation are still with us today (Twerefoo 1996).

Environmental degradation can also be seen as the degradation of the terrestrial, aquatic and atmospheric systems which indicate that our surroundings can no longer support our needs as a result of pollution of the land, or air, erosion, deforestation, alkalinity, salinity and water pollution. In a typical degraded environment it is expected that soils would be less supportive of agriculture. Environmental degradation is also associated with high temperatures.

As indicated earlier in this review, it is important to reiterate that another characteristic of a degraded environment is the low production of biomass and a reduction in land diversification (UNEP 1977). The Latin word for ***"degradation"*** means "reduction to a lower rank". Rank here is related to the actual or possible uses of land. "Reduction" here also implies a problem for those who use the land. When the environment becomes degraded it implies that productivity has declined.

Environmental degradation by its definition is both a social and natural problem. Many writers have tried to find the causes of the environmental degradation and have attributed the causes to either natural or social factors (Brown, 1971; Blaikie and Brookfield 1987). All models and assumptions about environmental

degradation have been built around these factors i.e. natural and human induced. Blaike and Brookfield (1987) see the problems as practically human induced. However, the role of human or society and nature cannot be separated since they are not mutually exclusive. Some writers see the problem as natural and cite factors such as low rainfall and high temperatures as some of the causes (Otterman 1974).

However, others such as Blaikie and Brookfield (1987), Bartelmus (1986) and Gowen (1985) have placed the blame on human society, mainly for "misuse" of the environment. Other writers have tried to blame both (Ehrlich and Ehlich 1970). With these approaches to the causes of environmental degradation, various models have been developed to depict the causes of degradation. Some of these theories have rather been harsh and uncompromising. They describe the attitude of local society as being irrational, apathetic, ignorant, greedy or stupid in the way they handle environmental issues. Nonetheless, some of those models have helped to explain the causes; some have also rather thrown the argument into confusion due mainly to the extent of their generalization. In spite of this, major explanatory models that have often been used in the development of literature have helped in explaining the cause of degradation. Above all the underlying consequences and the physical evidence of degradation are the destruction, deformation and elimination of environmental aesthetics.

2.3.5 Environmental Protection

Environmental protection is described as pragmatic measures and controls to prevent damage and degradation of the environment, including the sustainability of its living resources, (source: UNUN) [European Environment Agency (EEA), European Topic Centre on Catalogue of Data sources (ETC/CDS): General Multilingual Environmental Thesaurus Term Details] retrieved February 1st 2006.

Strictly, environmental protection seeks to protect and improve the environment, and to integrate the environment with other policies across Government and in international forum. To this effect, effective protection of the environment requires activity on many wide-ranging different fronts – for example, from acting to limit global environmental threats (such as global warming) to safeguarding individuals from the effects of poor air quality or toxic chemicals. It is one of the four objectives of sustainable development. Actions to protect the environment also produce benefits such as housing (through improved energy efficiency of buildings), social progress (through action to combat fuel poverty) and economic growth as re-use, recycling and recovery of waste).

For effective management and protection of the environment, a conscious effort was put in place to establish an agency to serve as a body to control activities of humans. This is the realization of Environmental Protection Agency (EPA). It is

therefore an independent agency of the United States Government, which was established in 1970 to protect the nation's environment from pollution. The activities of this agency have been extended to every nation.

The EPA establishes and enforces environmental protection standards and conducts research on the effects of pollution. It provides grants and technical assistance to states, cities, and other governmental units that seek to event pollution. In addition, the agency helps the Office on Environmental Policy develop environmental protection policies and recommend them to the president (World Book, Vol. 6/Environment). Invariably, in the Environment (Protection) Act, 1986, No. 29, which was enacted to consider decisions that relate to the protection and improvements of the environment and the prevention of hazards to human beings, other living creatures, plants and property, defines the environment as "***environment*** includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property" (Environment Protection Act, 1986).

This definition makes it explicit that human beings and all other "things" found around him form the environment; and these environmental constituents are highly interdependent on each other. As a result of this, anything that endangers one of these may affect the entire environment. Recently, environmental issues

have become matters of concern for a growing number of people and there are now many attempts to publicize reports concerning the state of the environment and how to curb the devastating impacts that affect its nature and aesthetics.

In December, 2005 the Minister of Environment and Science, Ms. Christine Churcher launched the first State of the Environment Report, 2004 in Accra. The report highlights that population growth, changes in land use patterns and climatic variability have results in the dwindling of freshwater resources, with rivers located near industrial areas dying due to the discharge of effluent by such industries (Daily Graphic number 149 24G of 28th December, 2005).

The report further states that the original forest cover was about 36% of the country's landmass, reducing to 23 % by 1972; 13.3% in 1990 and 10.2% in 2000. As a result, the report recommends for the rehabilitation, wise use and management of the natural resources in such a way as enhancing economic gains, human settlement planning, industrial development, poverty alleviation and a clean and healthy environment.

During the launch, the Minister was quoted as saying, "The environment holds the natural capital for the sustenance of our economy, and some omission or commission on our part, if not treated with care could hold disastrous consequences for the future generations" (Daily Graphic number 149246 of 28th

December, 2005). Even though environmental issues are of great concern to many, and some pragmatic approaches are being proposed to address them, attention is not given to the aesthetic aspects of the environment. It is the conviction of the present author that the absence of aesthetic approaches has adversely contributed to the slow impact made on its improvement.

CHAPTER THREE

THE RELATIONSHIP BETWEEN GHANAIAN INDIGENOUS AESTHETIC VALUES AND THE ENVIRONMENT

3.0 Overview

Aesthetics, in its modern Western formulation, has been dominated by issues related to fine arts. In Ghanaian indigenous or cultural context, aesthetic principles are mostly related to moral and religious values, and there is usually strong emphasis on the formal aesthetic aspects of the objects (including the natural environment) and the moral and religious ideas they express. However, there is a mutual blend among indigenous aesthetic values, indigenous concept of the environment and principles underlying the Western formulation of aesthetics in general. This chapter shall consider the meaning of aesthetics in Western as well as Ghanaian indigenous cultural context; the meaning of the environment; philosophical and ethical characteristics of human society and nature (indigenous environmental practices); aesthetic appreciation of the environment in relation to artistic visual elements; and aesthetic equilibrium between the natural environment and the artistic environment.

Environmental aesthetics, as a newly emerging discipline, originally concerned itself with the aesthetics of the natural environment but now extending to include the built environment, cultural landscape, and (non-art) artefacts in general that make up everyday environment (Saito, 2004). The present author shall explore some of the important issues pertinent to environmental aesthetics relating them to the practices of the indigenous people. Among some of the questions that shall be explored are: (1) To what extent is the model of art appreciation helpful or misleading in the understanding of the aesthetic appreciation of nature and environment? (2) What are some of the different ways in which nature and environment can be experienced? (3) Among various ways of experiencing socio-cultural practices and nature, are some more "correct" or "appropriate" than others? (4) What should be the relationship between natural environment and built structures? (5) What is the overall role that environmental aesthetics plays in promoting sound environmental ethics, ie. towards environment protection.

3.1 Understanding Aesthetics

To understand aesthetics and how it applies to 'everyday environment', it is important to define and discuss the origin of the word. The word ***aesthetics*** (also spelt ***esthetics*** and ***æsthetics***) is the field of philosophy concerning beauty and art. Aesthetics owes its name to Alexander Baumgarten, who derived it from the Greek work *aisthanomai*, which means ***perception by means of the***

senses (Budd, 1998). By its definition and characteristics, aesthetics basically consists of two major parts: the philosophy of art, and the philosophy of the aesthetic experience and character of objects or phenomena that are not art. Non-art items include both artefacts that possess aspects susceptible to aesthetic appreciation, and phenomena that lack any traces of human design in virtue of being products of nature, not humanity. There are two obvious possibilities that show that in aesthetics, one of the constituents is more fundamental than the other. The first is that the philosophy of art is basic, since the aesthetic appreciation of anything that is not art is the appreciation of it as if it were art. The second is that there is a unitary notion of the aesthetic that applies to both art and non-art; this notion defines the idea of aesthetic appreciation as disinterested delight in the immediately perceptible properties of an object for their own sake; and artistic appreciation is just aesthetic appreciation of works of art. But neither of these possibilities is plausible.

The meaning of ***aesthetic*** as an adjective may be illuminated by comparing it to anaesthetic, which is by construction an antonym. By extension, if something is anaesthetics, it tends to dull the senses or cause sleepiness. In contrast, aesthetics may be thought of as anything that tends to stimulate or enliven the senses.

In effect there is much aesthetic feeling to be enjoyed in the aesthetic appreciation of nature. Firstly, this induces aesthetics that is essentially informed by ideas

intrinsic to the appreciation of art, such as style, reference and the expression of psychological states. But in order for that curious feeling, the experience of the sublime invoked, perhaps, by the immensity of the universe as disclosed by the magnificence of landscape – to be aesthetic, or for one to delight in the beauty of a flower, it is unnecessary for one to imagine these natural objects as being works of art as seen in Figs. 3.1a & 3.1b. The appreciation of these natural objects should be determined by their features that are related to works of art and perhaps also by their possession of features available as in art.

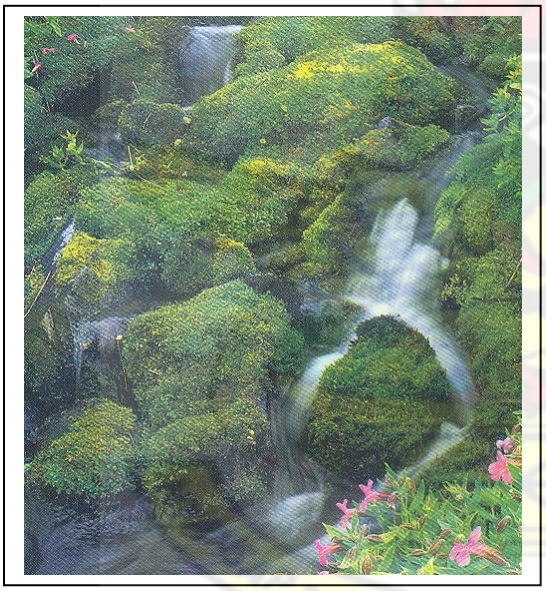


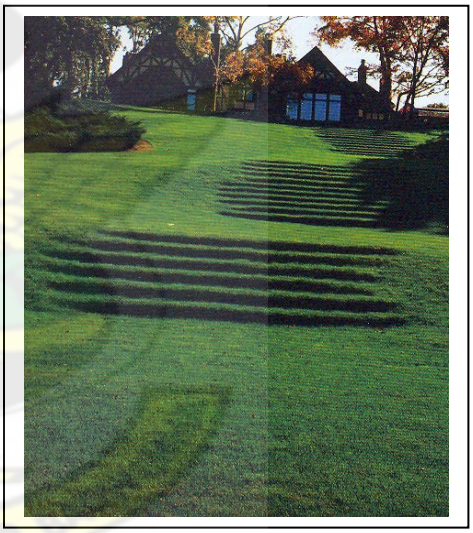
Fig. 3.1a. A landscape

Fig. 3.1b. A flower in KNUST Botanical Garden, Kumasi

Figs. 3.1a & b Natural objects having features that are available in works of art.
Source: Photographed by the researcher

On the other hand, there is lack of significance for artistic appreciation of various features of works of art that are not immediately perceptible, such as a work's

provenance and its position in an artist's oeuvre. Although some issues are common to the two parts many are specific to the philosophy of art and a few specific to the aesthetics of non-art objects. Moreover, not every object of appreciation falls neatly on one side or the other of the art-non-art distinction, so that appreciation sometimes involves an element of both artistic and non-artistic appreciations. For example, seascapes, gardens, landscapes, plantations, forest reserves and several other natural sites that have visual elements, which enhance their aesthetic qualities worthy of aesthetic appreciation (Figs. 3.2 a & b).



(a) a garden at Ashaiman, near Tema (b) a landscape at East Legon, Accra

Fig. 3.2 a & b. Natural objects that reveal non-artistic aesthetic appreciation of the environment.
Source: Photographed by the researcher

An object's beauty would appear to be a relational, mind-dependent property – as a property it possesses in virtue of its capacity to affect observers in a certain

manner. The great German philosopher Immanuel Kant presented a conception of an aesthetic judgment as a judgment that must be founded on a feeling of pleasure or displeasure. According to him, a pure aesthetic judgment about an object is one that is unaffected by any concepts under which the object might be seen (Budd, 1998).

As a field of philosophy, aesthetics lay much emphasis on beauty, taste, transcendence and the sublime. When aesthetics was introduced in the 18th century by the German philosophers, aesthetically appealing objects were beautiful in and of themselves. What was considered to be beautiful was distinguished from the sublime. Beautiful art might fall into the category of what one thinks of today as pretty, pleasant, pleasing to the eye. Sublime images, on the other hand, were awe-inspiring. Dramatic scenes from nature such as vast mountainscapes, the dazzling sea, or light shining through forested trees might produce an experience of the sublime (http.www.wikipedia/Aesthetics).

As stated earlier in this chapter, aesthetics was originally limited to the arts, but in recent years aesthetics is also largely applied in the sciences and engineering. In all these diverse areas the application of aesthetics is seen to appeal to the senses, and not necessarily a body of philosophical principles. In other words, aesthetics is now practically used to describe the 'physical' nature or qualities of

both natural and man-made objects that man uses his five senses to assimilate and enjoy.

3.1.1 Aesthetics of Art

Those questions that are specific to the philosophy of art are of three kinds: ones that arise only within a particular art form or set of related arts (perhaps arts addressed to the same sense); ones that arise across a number of arts of heterogeneous natures; and ones that are entirely general, necessarily applying to anything falling under the mantle of art.

Some important facts or characteristics of art

Some salient facts about art that reveal the intrinsic characteristics of art are:

(i) Not everything is art.

(ii) Artists create works of art, which reflect the skills, knowledge and personalities of their makers, and succeed or fail in realizing their aims,

(iii) Works of art can be interpreted in different ways, understood, misunderstood or baffle the mind, subjected to analysis, and praised or criticized.

(iv) Although there are many kinds of value that works of art may possess, their distinctive value is their value as art.

(v) The character of work endows it with a greater or lesser degree of this distinctive value.

To fathom the real nature and meaning of aesthetics, there are some important in-depth analyses that have to be made to unearth the import of this subject. Accordingly, the most fundamental general question about art would seem to be: what is art? Is it possible to distinguish art from non-art by means of an account that it is definitive of the nature of art, or are the arts too loosely related to one another for them to possess an essence that can be captured in a definition? To proceed, Canaday (1980) supports this question by saying that one cannot arrive at any single answer to the question, *what is art?* For art has so many aspects, takes so many directions, and serves so many purposes in such a variety of ways, that the question is as big as the biggest of all, *what is life?*

Whatever the answer to this question may be, another entirely general issue follows hard on its heels. It concerns the ontology of art, the kind of thing a work of art is. Do some works of art fall into one ontological category and some into another or do they all fall within the same category? To throw more light on these questions Canaday (1980) further states that,

> ... Art's first function is to be "pleasing to the eye" – a sound enough idea as far as it goes. Art has life as an embellishment from the day our prehistoric ancestors first smeared magical signs on their bodies with colored clays up to this moment, when no one reading this page is likely to be in a position to look away from it without seeing dozens of embellishments in one or another form of art – the patterns of rugs, book bindings, and upholstery; the shapes of moldings, ashtrays, and knickknacks; the color and design of clothing – blue jeans being just as much as embellishment

> as are embroidered robes – and whatever pictures hang on the walls. (p.3)

From Canaday's analysis, it is obvious that presuming that these objects were chosen because they were more attractive than others, the eye that chose them is pleased. But to stop with this pleasure is to deny ourselves the further ones of understanding why the eye is pleased and how these various forms and patterns evolved over the centuries and millennia of art history.

The difficulty in finding a definitive answer to the questions about what art is still looms on. In his frustrations, Gilbert (1992) reveals that,

> To further complicate the problem, we now have works of art created in media undreamed of a mere thirty or forty years ago, Electronic images of all kinds are made and accepted as art. Often, there is no concrete "object", nothing you could hang on the wall or place on a pedestal. Some types of contemporary art are preserved only in the memory bands of computers, and some disappear forever within minutes or hours after they are created. Little wonder, then, that in our century, for the first time, we need to stand back and ask, "What exactly is art? How can we tell what is and what isn't? (p.24)

In view of this, a number of important general questions may quickly arise. What is a work's artistic value and which aspects of a work are relevant to or determine this value? Is the value of a work of art, considered as an art, an intrinsic or an extrinsic feature of it? Is it determined solely by the work's form or by certain aspects of its content – its truth or its moral sensitivity, for example? Can judgment about a work's artistic value justifiably lay claim to universal

agreement or are they merely expressions of subjective preferences? And how is a work's artistic value related to, and how important is it in comparison with other kinds of value it may possess? (Budd, 1998). In addition, one may proceed to ask the following questions to further seek some answers to the meaning of art: what kinds of understanding are involved in artistic appreciation, and must an acceptable interpretation of a work be compatible with other acceptable interpretation?

It is imperative to state that art forms have a clear nature of depiction, which has no special importance within the philosophy of art for a pictorial representation is just as frequent outside as an art. The real clarity about the ways in which pictures can acquire value as an art must be founded on sophisticated understanding of what a picture is and the psychological resources needed to grasp what it depicts.

The distinctive nature and value of a particular artistic genre, the response it encourages from us, and the insight into human life it displays and imparts are some important characteristics of the aesthetic nature of art. For example, whereas a comedy exploits our capacity to find something funny, a tragedy engages our capacity to be moved by the fate of other individuals, and erotic art aims to evoke a sexual reaction; and this difference in the emotional responses at hearts of the genres goes hand in hand with the different aspects of human life

they illuminate (Fig 3.3 a & b). These forms of art are deliberately or consciously created to invoke differences in emotional responses.

(a)

(b)

Fig. 3.3 a & b. Some forms of artistic impression aimed at evoking sexual reaction to show different degrees of emotional responses
Source: Researcher's own Imagebank

In (a) the artist employs the subconscious mental faculty coupled with skill and mastery of his medium to paint vivid pictures taking the exact contours of the model's breast to induce sexual appeal. Likewise, in (b) the fabric designer consciously and perfectly designs the skirt to create an illusion of transparency in order to evoke sexual reaction of the viewers.

Questions about the individual natures and possibilities of the various arts include some aspects that are specific to the particular art and some that apply also to other arts. On the one hand, relatively few art forms (architecture and pottery, for example) are directed to the production of works that are intended to perform non-artistic functions or are of a kind of standard used for utilitarian

purposes, and accordingly the issue of the relevance to its artistic function satisfactorily is confined to such arts.

Again, only in some arts does a spectator witness a performance of a work so that issues about a performer's contribution to the interpretation of a work or about the evaluation of different performance of the same work are limited to such arts. And since only some works of art (novels, plays, and films), for example, persons or events, questions about the means by which a story is told or how references to fictional objects should be understood have a restricted application within the arts. On the other hand, most, if not all, arts allow of works within their domain being correctly perceived as being expressive of such a condition. But the means available within the different arts for the expression of psychological states are various: poetry consists of words, dance exploits the human body, and instrumental music uses nothing other than sounds. And these different artistic media impose different limits on the kinds of states that can be expressed by works of art, the specificity of the states, and the significance within an art of the expressive aspects of its products. Furthermore, it is a general truth about the various arts, rather than one special to expression, that what can be achieved within an art is determined by the nature of the medium the art is based on. Accordingly, an adequate philosophy of art must investigate the variety of such media and the limitations they impose like what can be found in the performing arts, such as drumming and dancing (Fig. 3.4).

Fig. 3.4 Drumming and dancing as a form of aesthetic expression
Source: Photographed by the researcher

Art today might be said to be more embracing of, or at least engaging with, current notions of the beautiful or sublime. Theorists such as Jeremy Gilbert discuss how the intensification of capitalism and new technologies might be developing a new notion of sublimity. Visual culture theorist Johanna Drucker suggests that contemporary artists recognize their complicity with the dominant ideologies of beauty and aesthetics, and may simultaneously critique and embrace these aesthetics (www.wikipedia.com/aesthetics).

Within the visual arts aesthetic considerations are usually associated with the visual sense, however in both painting and sculpture the presence of the object is also perceived spatially and to some extent by the senses of smell, sound and texture as well as through recognized associations and context. The form of the work can be subjected to an aesthetic appreciation as much as the content. With

painting the aesthetic convention that we see a three dimensional representation rather than a two dimensional plane is so well understood that most people do not realize that they are making an aesthetic interpretation.

From the foregoing survey on the characteristics of aesthetics in the arts, here are some aesthetic effects available in visual arts which are equally applicable in environmental aesthetics, as well as the indigenous concept of aesthetics; tonal variation, juxtaposition, repetition, field effects, symmetry, asymmetry, perceived mass, subliminal structure, linear dynamics, tension and repose, pattern, contrast, perspective, three-dimensionality, movement, rhythms, unity, matrixiality and proportion.

3.1.2 Indigenous Ghanaian Concept of Aesthetics

As it applies in aesthetic feelings in any other field, Ghanaian aesthetics also appeals to the perception of taste by the senses. However, Ghanaian aesthetics generally has a moral basis, as indicated by the fact that in many African languages the same word means "beautiful" and "good". It is consistent with the use and meaning of African art that it should be both beautiful and good, because it is intended not only to please the eye but to uphold moral values. The main focus of Ghanaian aesthetics is on the human figure and this forms the basis of ethics and religion of the indigenous Ghanaian. As a result, Ghanaian

aesthetics often appear in ritual contexts that deal with vital moral and spiritual concerns of the human condition.

It is important to state that the indigenous concept of aesthetics is often expressed in most African sculptures, especially masks and headdresses, in the round. The Ghanaian carvers, like all other African carvers, exhibit the mastery and skills in making masks and headdresses appear visually interesting (fig. 3.5).

Fig. 3.5 African aesthetics expressed through lines in sculpture
Source: Researcher's own Imagebank

It is important to point out from the foregoing description of aesthetics that African aesthetics is "characterized by delight, interest, and enjoyment experienced by human beings in response to objects, events, and scenes" (Gyekye, 1996). It is, however, implicit that even though African aesthetics has a

moral basis, it has sensory responses. Aesthetic values refer to those features of objects, events, and scenes that are considered worthy of sustained appreciation, attention, and interest.

Objects that are traditionally considered worthy of sustained appreciation and enjoyment in Ghanaian indigenous cultures include painting (on walls of shrines, canoes, etc.), sculpture, music, and dancing. Needless to say, indigenous concept of aesthetics may include many more and the focus of Ghanaian aesthetics is wider, its concerns much greater. Ghanaian aesthetics considers the beautiful to include more in the life of a person than events, scenes, and works of art; it deals also with the standards of value in appraising other aspects of human life and culture, such as humanity itself and morality.

It is important to reiterate here that beauty is traditionally and universally considered as the central concept in an aesthetic experience. Different cultures hold different conceptions about beauty (or the beautiful) and what features of the human experience can be called beautiful. Beauty is seen not only in works of art but also in the physical characteristics or qualities of the human being. These characteristics, however, are also inherent in the organic and inorganic environment within which human beings live.

3.1.2-1 Some Elements of Ghanaian Aesthetics

In indigenous Ghanaian society aesthetics, however, refers to the sum total of the characteristics and elements that are inherent in all artistic endeavours. These elements include, for example, the resemblance of sculptures to human beings, the luminosity or smoothness of an object's surface, the youthful appearance of sculptures and the way sculptures portray a reserved or composed demeanor. Similarly, in Western art aesthetics is also the term used to sum up the search for beauty, balance, proportion and conscientious use of materials in order to achieve good craftsmanship in art objects (Bromer, Gerald, 1981).

Resemblance to human being: Indigenous artists, especially carvers, try to portray figures that "look like a human being". It is seldom to see particular people, actual animals, or actual form of invisible spirits being in African aesthetic expressions. Rather, the artist's aim to portray ideas about reality of spiritual or human, or animal images.

Luminosity: The lustrously smooth surface of most African sensual sculpture, often embellished with decorative scarification indicates beautifully shining healthy skin. Figures with rough surface and deformities are intended to appear ugly and morally flawed.

Self Composure: The person who is composed behaves in a measured and rational way; he or she is controlled, proud, dignified and cool. For example, in chieftaincy this is largely portrayed.

Youthfulness: A youthful appearance connotes vigour productiveness, fertility, and ability to labour. Illness and deformity are rarely depicted because they are signs of evil.

Clarity of form and detail, complexity of composition, balance and symmetry, smoothness of finish: Ghanaian artists place a high value on fine workmanship and mastery of the medium.

3.1.2-2 Ghanaian Aesthetic Views and Values

The aesthetic philosophy in African culture is relative in many ways. However, the arts, in whatever form, are not only culturally bound but are also an expression of the collective vision of the people. The poet, the singer, the artist and the sculptor, are all giving expression to the communal ideals whether spiritual or material, physical or metaphysical.

3.1.2-3 Ghanaian Beauty: its Concept and Expression

Aestheticians of Western orientation may find it rather curious that in many African languages the term 'beautiful' also refers to the morally good. In Igbo language of Nigeria, for instance, one says, *"Nwa-a amaka", "Omume nwa a amaka,"* "this child is beautiful," "the character of this child is beautiful". The intransitive verb, *amaka,* i.e. "is beautiful," is employed in the same sense in the two propositions (Okafor, 1996). In the same way, the Akans of Ghana may also refer to the behaviours or character as "beautiful" or "morally good". For example, an Akan may say *"wo suban yε fε"*, which means "your character is good". However, the words "*yε fε*" can also be used to refer to the beauty of a person, i.e, "*Ama hu yε fε"*, "Ama is beautiful".

From the analysis of the concept of beauty and the application of the term to various things in most African languages, it is easily deducible that the term, "beauty" is a connotative term. This means that beauty denotes one thing and connotes the other. It denotes the object of beauty and connotes its goodness. This may be goodness in behaviour or in function. Thus, Africans do not associate beauty with evil. The two are repugnant and cannot inhere in the same subject or object. A beautiful girl with bad character is referred to as "nכ nכ me gbegble" in Ewe language. "Nכnכ me gbegble" can safely be translated as "rotten beauty" or bad character", that is to say useless or meaningless beauty. And of course, useless or meaningless beauty is no beauty at all.

The beauty of character, that is, the moral goodness covers the ugliness of the physical appearance. Nwoko (1979) stresses this point when he affirms that "The African finds it possible to live with the physically deformed practically as if they were normal due to the African exceptional ability to look beyond physical qualities". (p. 4).

Looking at beauty from another perspective, the indigenous African decorates the human body to portray some philosophies of life and showcase their sense of aesthetics. However, if changing the physical body thus combines the aesthetic, philosophical, and social much as do other African aesthetic qualities, one should consider how African body modification relates to scarification, tattooing and body piercing in the West and how both relate to electives cosmetic surgery (Landlow, 2006) (www, scholars nus-edu.sg/post/Africa/scar.html) retrieved 21/5/2006.

As in the essentially anti-Romantic arts of medieval Europe, traditional African body decoration and sculpture elevate the human above both the merely natural (in reality) and the merely realistic (in aesthetics). Scarification, tattooing, and body piercing therefore parallel the characteristic African aesthetic emphasis upon composure, balance, and calm in an important way for both represent ways of separating the human from the less-than-human-- the animal, the natural.

In the appraisal of African concept of beauty and arts in general, as already noted in the foregoing analysis, one encounters an irony in which an aesthetically ugly object is held as beautiful in the eyes of the beholders because, and in so far as, it fulfils the function for which it is designed. Thus, masks worn by masquerades are artistically designed to induce certain emotion in the beholders during the performance of certain rituals or other traditional ceremonies. The success of masquerade in achieving this objective is the basis for qualifying it as beautiful. This concept of beauty may be safely referred to as ontological beauty or in simple expression, functional beauty. This is so because it is beauty derived from the inner meaning and being as well as the function of the object.

Masqueraders in most African cultures are regarded as visitors from the land of the dead who appear on special occasions such as religious festivals, during the burial rites of titled men or women and indeed, other occasions which require the presence of the dead among the living. In the African conception of being, there is an ontological relation between the living and the dead. And there is reciprocal influence between the two. Masquerades are visible manifestation of this ontological interaction. Since beauty of a masquerade lies in its inner meaning and function, no one would expect a masquerade representing an ancestor to be energetic. No. It has to be a figure with wrinkled face, wearing gray hair, fragile and fatigued for his many years of corporeal and non-corporeal

existence. The beauty of this masquerade certainly lies in manifesting these qualities. The African artist is successful to the extent that he is able to objectify the inner meaning of his people's religious beliefs and aspiration and other customary values and ideals. For instance, the people of *Bwa* village of *Boni*, Burkina Faso have an African mask performance which has its features derived from the environment (Fig. 3.6). The *Bwa* make both masks of leaves, and wooden masks. The wooden masks are covered with red, white and black graphic patterns, and are used in funerals and annual festivals. The leaf masks represent the God of springtime, and perform only for one day, after which they are destroyed. As pointed out earlier, the aesthetic qualities of these masks are inherent in religious beliefs of the people of *Bwa*.

Fig. 3.6 Masks of Leaves and Wood: The *Bwa* People of Burkina Faso
Source: Grimshaw (1996)

To sum up, it is obvious from the foregoing discussions that beauty in African conceptions is a many-faceted notion with much wider application. It is not just a feature of works of art; there is also the idea of beauty of speech, thought, action (behaviour), appearance, and of humanity itself. Standards of aesthetic value are constantly impinging themselves on moral valuation; so that what is morally good also appeals to the aesthetic sense.

3.2. Understanding Our Environment

Environment is a term that has been defined differently in different disciplines. However, for the purposes of this present studies the following definitions best give an insightful understanding of our environment. The Chambers Maxi Paperback Dictionary defines environment as "surroundings; external conditions influencing development or growth of people, animals or plants". From this complex definition; it is obvious that everything that makes life possible for every living creature including humans is part of the environment.

The U.S. Environmental Protection Agency (EPA) has also given diverse definitions which have a comprehensive description of what the environment entails. The following are the various definitions given in various offices of jurisdiction of the agency:

- A concept which includes all aspects of the surroundings of humanity, affecting individuals and social groupings. The European Environmental

Agency (EEA) has defined the environment as "the combination of elements whose interrelationships make up the settings, the surroundings and the conditions of life of the individual and of society, as they are or as they are felt". The environment thus includes the built environment the natural environment and all natural resources, including air, land and water. It also includes the surroundings of the workplace.

- All external conditions that affect an organism or other specified system during its lifetime.
- All the biological and non-biological factors that affect an organism's life.
- Includes water, air, and land and the interrelationship, which exists among and between water, air, and land and all living things.
- Any other surface water, ground water, drinking water supply, land surface or substance strata, or ambient air.
- The complex of physical, chemical, and biotic factors (as climate, soil, and living things) that act upon an organism or an ecological community and ultimately determine its form and survival. The circumstances, objects, and conditions that surround each of us.
- The sum of all external conditions affecting the life, development and survival of an organism.
- Totality of conditions surrounding an organism.

URL:http://www.epa.gov/trs/ retrieved February 1st, 2006

The foregoing definitions have made our understanding of the environment so vivid that it is obvious that environment is life: without the environment there is no life. In simple terms, it is human beings with air, water, plants, animals, etc. To support the foregoing definitions of the environment by the U.S. Environmental Protection Agency, Environmental Science also comprehensively states in support that man inhabits two worlds. One is the natural world of plants, animals, soils, air and water. The other is the world of social institutions and artefacts that we create for ourselves using science, technology, and political organization (Cunningham & Cunningham, 2002). Both worlds are essential to the lives of human beings.

In defining the environment, Environmental Science, however, further states that it is the circumstances that surround an organism or group of organisms; or it is the social and cultural conditions that affect an individual or community. Since humans inhabit the natural world as well as the "built" or technological, social, and cultural world, all constitute important parts of our environment. The figure below clearly describes what our environment looks like (Fig. 3.7).

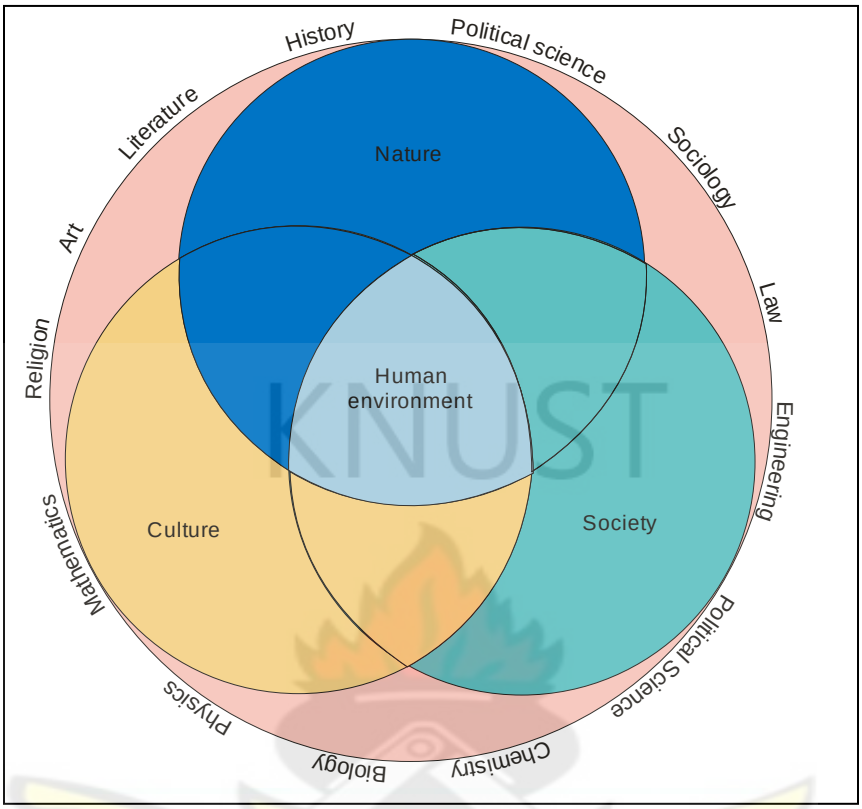


Fig. 3.7 Social and cultural conditions affecting the environment
Source: Cunningham & Cunningham (2002)

From another perspective, the environment is regarded as everything that is external to an organism. A human being's environment includes such factors as temperature, food supply, and other people. A plant's environment may be made up of soil, sunlight, and animals that will eat the plant. Nonliving environmental factors, such as temperature and sunlight, make up the *abiotic environment*. Living or recently living things, such as seaweed and food, make up the *biotic environment*. Both the abiotic and biotic environments interact to make up the total environment of living or nonliving things (World Book, Vol. 6, 2001).

To expatiate further on this, abiotic environment includes such factors as soil, water, atmosphere, and radiation. The abiotic environment is made up of many objects and forces that influence one another and influence the surrounding community of living things. For example, a river's current, temperature, clearness, and chemical composition will influence what kinds of plants and animals that live there and how they live.

One important group of abiotic environmental factors is what is called the weather. Living and nonliving things are influenced by rain, snow, hot or cold temperature, evaporation of water, humidity (amount of water vapour in the air), wind, and numerous other weather conditions. Many plants and animals die each year because of weather conditions. Human beings build homes and wear clothes to protect themselves from harsh climates. They study the weather in order to learn how to control it, most probably, to promote its aesthetic value.

Other abiotic factors include the amount of living space and certain nutrients available to an organism. All organisms need a certain amount of space in which to live and carry on community relationships. They also must have non living nutrients, such as phosphorous, to maintain such body activities as circulation and digestion.

Biotic environment includes food, plants, animals, and their interactions among one another and the abiotic environment. A human being's survival and well being depend largely on the foods eaten, such as fruits, vegetables, and meat.

Social or cultural surroundings are an important part of a person's biotic environment. Human beings teach one another what they have learned. By passing on knowledge, people have developed religion, art, music, literature, technology, and science. The cultural inheritance and biological inheritance of human beings have enabled them to advance beyond any animal in controlling their environment.

The foregoing descriptions have given an in-depth knowledge into the environment in which one lives. One of the objectives of this study is to employ art and culture to address environmental problems to curtail the devastating effects on the environment as a result of man's accidental and intentional impact. Though there are so many environmental constituents, the main focus of this dissertation is on the safety of the environment, which holds the "life" of several other organisms including *homo sapiens*.

3.2.1 Vegetation and its Value to Environmental Beauty

The total land area of the Earth (excluding Antarctica) is put at 13, 077 million hectares. The total wooded area is estimated at 5228 million hectares or 40%; the

area of pasture and rangeland is about 6721 million hectares or 51%. The remainder is made up of rock or barren areas such as sandy deserts (World Resources, 1986). Not all this vegetation cover is natural to its area: some of the wooded areas are plantations of exotic species, for example the pine forests of New Zealand and the rubber plantations of Malaysia; some of the pastures are sown grasses found in New Zealand (Wright, 1993).

Although the major part of the Earth's plant cover has been modified to a greater or lesser extent by human agencies, it still retains a form which at least has affinities with its natural counterpart. Areas of trees have been most dramatically altered, yet there are still large tracts of forest which are virtually in their natural state, for example the tropical rain forests of Democratic Republic of Congo and Brazil. Pasture land and rangeland, in contrast, often show less change but finding areas untouched by human activity is very difficult.

Extensive studies made by Wright (1993) shows that people living in developed countries such as the United Kingdom, Sweden, France and the United States of America are accustomed to having apparently very precise and accurate data on many aspects of life, not least the natural environment. Much of this information is less accurate than it appears, and utilizing it fully often requires additional information which may only be rudimentary. Much of the information relating to the natural environment is little more than a normal guess. It has been pointed

out, for example, that estimates for the world's forested areas range from about 3000 up to abut 5000 million hectares or from 23 to 38% of the Earth's land surface (Mather, 1987). Likewise, one estimate of the annual rate of deforestation has been put at 18-20 million hectares per annum (Barney, 1980).

Although it is agreed that most of this deforestation is taking place in the closed tropical forests, figures for these areas are among the most unsatisfactory. Thus, FAO/UNEP (1982) estimates the annual rate of cutting at 7.1 million hectares, whereas Myers (1980) puts forward estimates of 20-24 million hectares for the same general areas. They often result from the use of different definitions of, for example, closed woodlands.

Prior to the emergence of organized society the Earth's vegetation, in spite of a bewildering mix of species reflecting the interaction of general environmental and biological controls, was arranged in zonal belts closely linked with the prevailing world climatic pattern (Wright, 1993). It was no ornamental cover: it acted as the habitat for the wild of Earth; it was a key factor in determining the precise gaseous composition of the atmosphere, by means of transpiration the vegetation cover was a major influence upon the amount of water vapor in the atmosphere. More than this, by growing between the ground and the atmosphere it acted as a major inhibitor of soil erosion, and because it was a major source of humus and soil nutrients, it was a major contributor to soil

fertility. In addition, the organic acids created during the breakdown phase greatly enhanced the weathering process.

With the emergence of the human species, aesthetic as well as economic value had been added to the values enumerated above. The vegetation is now used to provide shelter, timber, fuelwood, crops and medicines as well as industrial products such as paper. Perhaps, too, the natural vegetation plays a role in the psyche of human beings. Just as music may, in some people, inspire changes of mood, or a great painting or outstanding architecture touch hidden sensibilities, so too may a visit to a primeval forest or range land touch the spirit.

The study of the vegetation, its analytical interpretation, its management and the control over its evolution is gaining importance, given man's growing capacity to change and destroy, to recreate and to conserve. The cognitive and interpretative approach to various and complex environmental situations have attracted new and keen attention from researchers. However, this attention does not normally go hand in hand with an adequate theoretical and methodological maturity.

Calcagno (cited in Kogan, 1980) asserts that the attention of many scholars today is still focused on an effort to overcome the disciplinary sub-divisions into which the scientific analysis of nature has been split. This in an attempt to arrive at an interpretation and synthesis adequate to confront the complexity of the

landscape-environment themes on a multidisciplinary basis. The ultimate goal is to understand the phenomena of normal processes in interaction with human activities and the numerous mechanisms that support life on this planet.

It is, however, imperative to point out that in placing value on the environment, emphasis is placed on aesthetic values and consideration of landscape as the main object which plays its part in the process of visual perception. Also, there are predominantly geographic and naturalistic views of landscape as a complex system of natural origin.

To proceed, it is important to understand the true meaning of 'landscape", since it is an offshoot of the environment that gives form to man's aesthetic aspect of the environment. The word 'landscape' is usually given one of two fundamentally different meanings: the first is visual-aesthetic, founded in the pictorial tradition as well as the Romantic and the late idealist philosophy (Assunto, 1973). The second meaning, however, has its roots in the global conception of nature.

A feasible knowledge in the value and aesthetics of the environment, however, gives man the impetus to care, manage and protect the environment from degradation. In discussing the values of the vegetation as part of the environmental constituents, a critical look should also be taken at values and

benefits of the forests. Forests and grasslands – especially in temperate regions – are among the most heavily disturbed by human activities of any terrestrial biomes. However, these ecosystems produce valuable materials, such as lumber, paper pulp, and domestic livestock that are very important in human culture.

They also play vital roles in regulating climate, controlling water runoff, providing wildlife habitat, purifying the air, and a host of other ecological services. Furthermore, these terrestrial biomes have scenic, cultural, and historic values that deserve to be protected.

Wright (1993) points out that much of the attention of environmental groups over the past century has been devoted to protecting forests, prairies, and other landscapes. Among the forests of greatest concern are the remnants of primeval forests that are home to much of the world's biodiversity, endangered species, and indigenous human cultures. Figure 3.8 shows the main forest types around the world. Old-growth forests (also known as frontier forests) are those that cover large enough area and have been undisturbed by human activities long enough that trees can live out a normal life cycle and ecological processes can occur in relatively normal fashion. In some old-growth forests, most trees may live less than a century before being killed by disease or some normal disturbance like fire. Where human occupation entails relatively little deforestation – both legal and illegal – probably put a much greater area at risk.

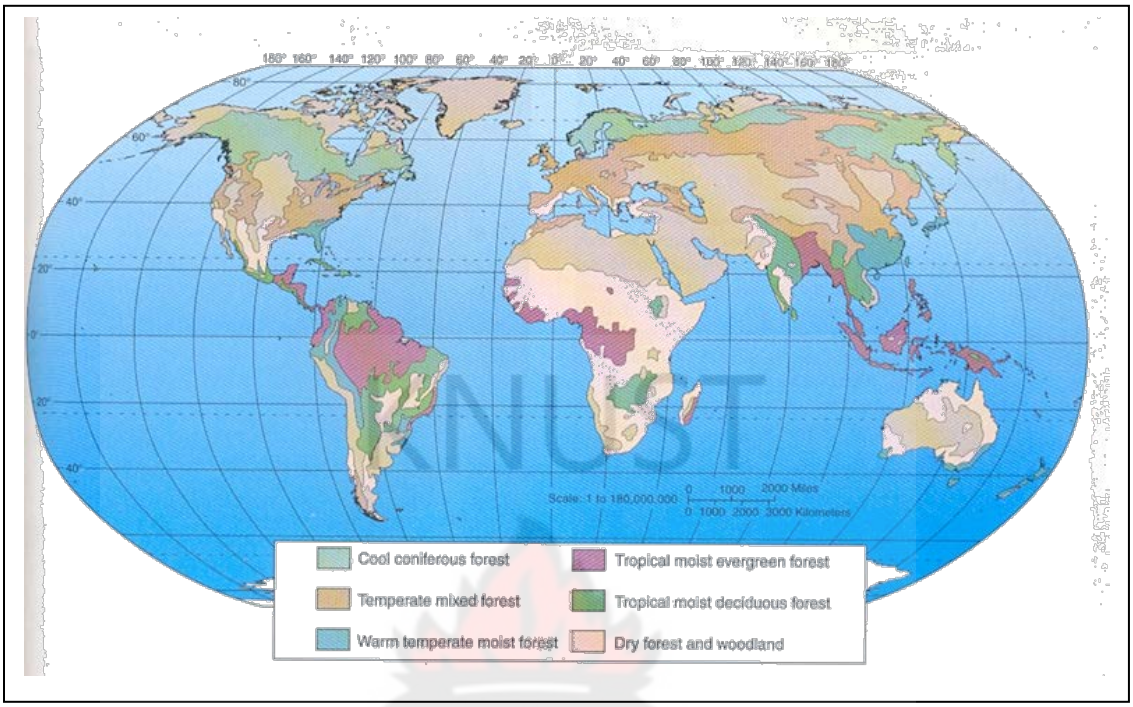


Fig. 3.8 The distribution of the main forest types around the world
Source: Cunningham & Cunningham (2002)

In assessing the usage of forest products there is clear evidence that wood plays a major part in more activities of the modern economy than does any other commodity (Cunningham and Cunningham, 2002). There is hardly any industry that does not use wood or wood products somewhere in its manufacturing and marketing process. Examples are junk mails, newspapers, photocopies, and other products that are made use of in a single day.

Total annual world wood consumption is about 3.7 billion metric tons or about 3.7 billion m^3. Research shows that this is more than steel and plastic consumption together. According to Cunningham and Cunningham (2002),

developed nations produce less than half of all industrial wood but account for about 80 percent of its consumption. Less developed countries, mainly in the tropics, produce more than half of all industrial wood but use only 20 percent.

Approximately one-quarter of the world's forests are managed for wood production. Forest management involves scientific planning for sustainable harvests, with particular attention paid to forest regeneration. Much commercial forestry involves large plantations of single-species, single-use, intensive cropping called monoculture forestry. Although this produces rapid growth and easier harvesting than a more diverse forest, a dense, single-species stand often supports little biodiversity and does poorly in providing the ecological services, such as soil erosion control and clean water production, that may be the greatest value of native forests.

After forests, grasslands are one of the biomes most heavily used by humans. Prairies, savannas, open woodlands, and other grasslands occupy about one-quarter of the world's land surface. Pasture and grazing lands make up about twice the area of all agricultural lands (Wright, 1993). Sustainable pastoralism can increase productivity while maintaining biodiversity in a grassland ecosystem.

Because grasslands and open woodlands are attractive for human occupation, they frequently are converted to cropland, urban areas, or other human dominated landscapes. This is the point at which environmental aesthetics need to be taken a critical look at and users of the land require thorough education as to how to apply the principles underlying the beautification of the environment in order to promote its protection through good socio-cultural practices of the indigenous people.

Apart from forests and rangelands, parks and nature reserves are also very important components of the vegetation that make up the entire environment. Since ancient times, sacred groves have been set aside for religious purposes in Ghana and in some other countries like Greece, hunting preserves or pleasuring grounds for royalty were set aside. These lands tended to be open only to elite members of that society, but they helped to preserve biodiversity and natural landscapes.

Parks serve a variety of purposes such as techniques about our past and they also provide sanctuaries where nature is allowed to evolve in its own way. They are havens not only for wild plants and animals but also for the human spirit.

Unfortunately, unprecedented population growth, food shortages, scarce energy supplies, air and water pollution, and destruction of habitats and biological

resources are all serious threats to our environment and our way of life. As international travel and communication have become easier, there is a clear evidence of the problems of the whole planet. Indigenous peoples of our societies are generally among the poorest and most oppressed of any group. Nevertheless, they possess valuable ecological knowledge and remain the guardians of nature in many places. Recognizing the rights and socio-cultural practices of the indigenous people is an important way to integrate environmental aesthetics into the developmental processes aimed at protecting natural resources and environmental quality.

3.3 Philosophical and Ethical Characteristics of Human Society and Nature

Ecosystem Services – the array of benefits provided by nature – are the lifeblood of human societies, economies and identities around the world (Bohensky, 2004). For many rural populations, ecosystem services form an essential part of daily activities and longstanding traditions.

City dwellers may claim less direct dependence on ecosystem services, but they derive a variety of benefits provided by nature – are the life blood of human societies, economies and identities around the world (Bohensky, 2004). For many rural populations, ecosystem services form an essential part of daily activities and longstanding traditions.

City dweller's may claim less direct dependence on ecosystem services, but they derive a variety of benefits from them, including "goods" such as food, water, fibre and pharmaceutical products, and "services" such as soil fertility and climate regulation that help to maintain a healthy, inhabitable environment. Ecosystems (i.e. the environment in totality) also provide cultural services through which people relate to, appreciate and enjoy nature. It is therefore in the best interest of societies as a whole to strive to maintain them. However, though their value is tremendous, ecosystem services are being seriously degraded (www.milleniumassessment.org).

Understanding the links between environmental change and human well-being requires analysis not only at the global scale, but at finer scales – such as a river basin or village – where many key decisions about how to use and manage ecosystems are made. In a given river basin, the availability of water may depend on factors including land use and national policy. In a village, factors such as local topography and cultural practices may be at play. In addition, clear-cutting a forest today, for example, reduces the likelihood of benefiting from services that an intact forest can provide in the future, while the diversion of water for irrigation purposes may be beneficial in agriculture.

The natural environment is in a continuous state of change produced by evolutionary forces as well as environmental developments. These evolutionary

and environmentally induced changes have been compounded by the additional change produced by human agency. Invariably, the changes induced by human beings have had some impacts on the environment. Wright (1993) has described them as geographic, botanic and economic changes.

Geographic changes: The change may be geographic where species expands its range when introduced to a new area, for example sunflower, which was brought from Europe and is now cultivated here in Ghana in large quantities.

Botanic Changes: Botanic changes may occur in the sense that plant breeding may produce cultivars, for example wheat and barley.

Economic changes: This form of change happens when one type of vegetation is replaced by another valuable form or more frequently that the vegetation is utilized for economic purposes such as grazing, or timber and wood production.

These changes under discussion here are only basic to vegetation, which only forms a small part of the entire environment, but plays a very important role in the sustenance of the livelihood of mankind.

The basic reasons for changing and utilizing the natural vegetation are to provide more food for the ever-expanding Ghanaian population. At this point, it is

important to indicate that not all the changes that occur or are induced, are by human agency are deliberate. A greater percentage is unintentional. However, considering all the change holistically, the consequences sometimes could be long-term or short-term, irreversible or reversible. The diagram below (Fig. 3.9) illustrates the various forms of changes effected by human beings.

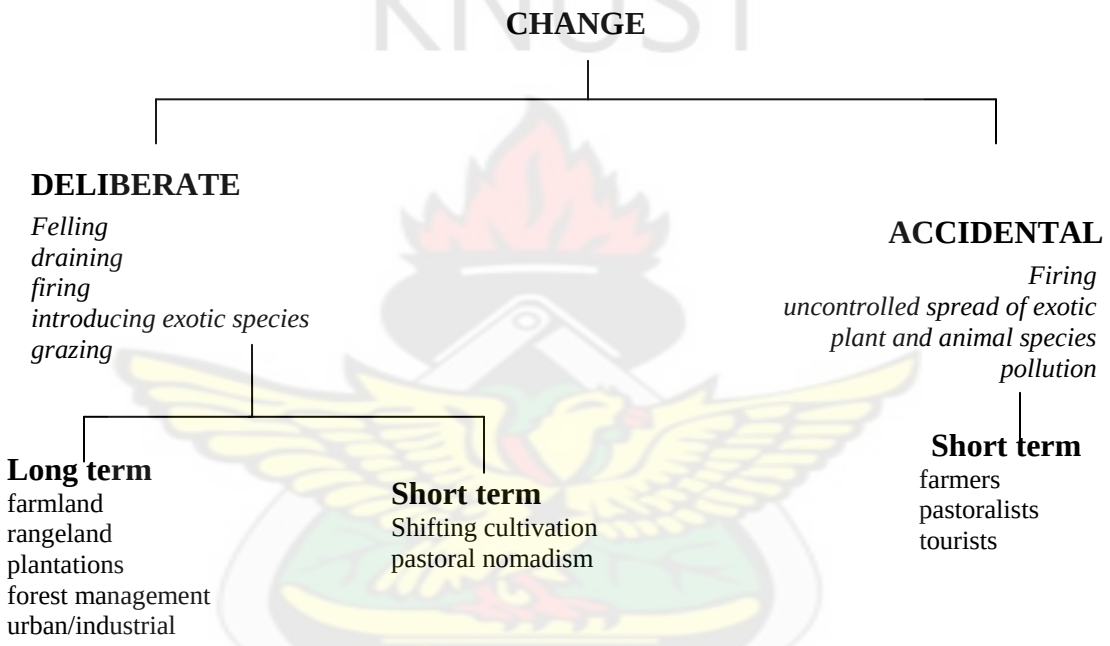


Fig. 3.9 Causes and results of vegetation change

In recent years the main agricultural frontier has been pushed into the areas of tropical rain forest. Three factors are now thought to be the most widespread and important causes of loss of this rain forest habitat and beside them losses to cities, towns, villages, roads and even timber companies are quite small (Cumberland, 1981). The first is the need to provide food for a rapidly growing population. The second is to provide land for the landless on which they might

eke out a near-sufficient existence. The third is to provide land for multi-national companies on which they can carry out large-scale, low-cost agribusiness (Madeley, 1988). The second of these factors often leads to additional forest losses via illegal felling and clearing for settlement purposes. For example, clearing of large track of land by real estate developers in parts of Accra, Tema and Kumasi to build semi-detached houses poses a threat to the environment to a great extent.

Philosophically and ethically, natural vegetation can be of direct use and hence worth utilizing, preserving, or conserving. Trees and shrubs may be used for timber and energy (fuelwood, charcoal), rangelands may be grazed, and peat may be used as fuel. The vegetation may have an important role to play as an erosion control or as part of a broader ecological system. The degree of human interference can range from zero in totally protected area to total clearance in the case of some forestry practices, or poor land management that may eventually render it aesthetically unpleasant due to the extent of the degradation.

Commercial exploitation almost always involves much greater disturbance. At one extreme there is the removal of selected timber trees. This system was formerly quite widespread in the tropical rain forests as shown by the removal of teak, using elephants, in Thailand. With such a low percentage of the natural trees cut, and without mechanized extraction methods, only slight damage and

change occurred. Also, as it happens elsewhere whereby helicopters are used to lift out naturally fallen trees is considered quite uneconomic. However, today the search for greater profitability as well as quantity means almost always that a far higher percentage of the merchantable trees has to be cut, and these trees must be extracted mechanically, causing perpetual harm to the environment.

Changes to the environment, especially vegetation, also result from the policy of enrichment. In this case, an area, after more or less severe logging, is cleared of the slash and replanted (enriched) with seedling timber. Whilst there may be native species, more often they are faster-growing exotic species. Fast-growing eucalyptus species have been used quite widely for this purpose in parts of East Africa and New Zealand (Wright, 1993).

In practice, this compromise of introducing fast-growing alien species rarely satisfies either the conservationists or foresters since less timber is produced than if the whole area has been clear-felled and replanted entirely in exotics, while the natural state of the forest is compromised.

Plantation forestry represents an entirely human-made vegetation system. It is now widespread, productivity from plantations is high and cropping is easy. Hence, if carefully implemented, it can reduce demand upon, and so help conserve, the natural forests. The widespread use of plantation forestry in the

moist tropics offers some hope to the remaining rain forests, but the maturity time is about fifty years, suitable land is not always readily available, and demand always seems to increase. Clearly, agriculture and forestry are two major direct causes of change to the natural environment but inadvertent human action has also brought change.

3.3.1 Characteristic Linkages between the Environment and Human Health

From the United State EPA's definitions of the environment earlier in this chapter, it is important to be implicit here that humans, as well as all other environmental organisms, cannot exist without sound environmental conditions. Human health is very important as far as the environment is concerned.

In a very fundamental sense, ecosystems (i.e. the sum-total of the environment, such as air, water, vegetation, etc.) are the earth's life support systems – for the human species and for all other forms of life. The needs of human biology for food, water, clean air, shelter and relative climatic constancy are basic and unalterable.

Ecosystem services are indispensable to the well-being of all people, everywhere in the world. The causal links between environmental change and human health are complex because they are often, indirect, displaced in space and time, and dependent on a number of modifying forces (Fig. 3.10).

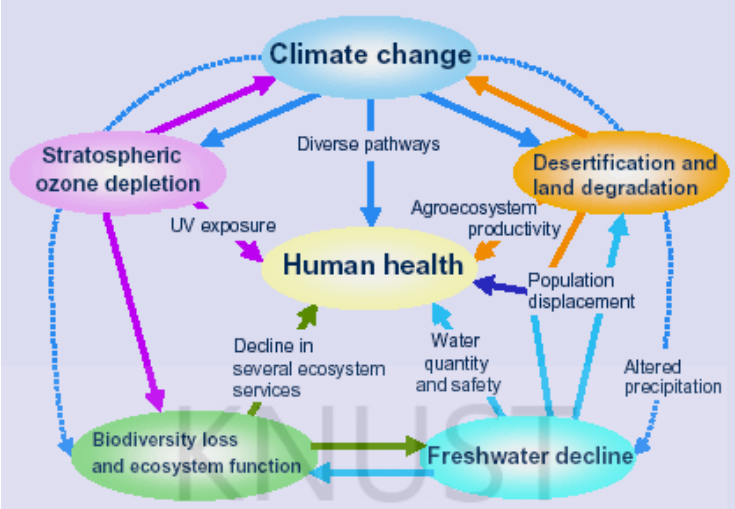


Fig. 3.10 Causal links between environmental change and human health
Source: URL:http/www.environmenttimes.net

For a better understanding of ecosystem services and human health, it is important to consider them under the following life – support systems: food; fresh water; fuel; nutrient and waste management, processing and detoxifications; cultural, spiritual and recreational service from ecosystems; and climate regulations.

Food

In poor communities, especially in rural areas, the health of human populations is highly dependent on the services of local productive ecosystems for food. Aggregate food production is currently sufficient to meet the needs of all, yet of the present world population of just over 6 billion, about 800 million are underfed with protein and/or energy, while a similar number are overfed (WHO/FAO Report, 2005). At least an additional billion people experience

chronic micronutrient deficiency. In richer urban communities human dependence on ecosystems for nourishment is less apparent, but ultimately no less fundamental.

Fresh Water

Over one billion people lack access to safe water supplies, while 2.6 billion people lack adequate sanitation. This has led to widespread microbial contamination of drinking water (www.environmenttimes.net). Water associated infectious diseases claim up to 3.2 million lives each year, approximately 6% of all deaths globally. The burden of disease from inadequate water, sanitation, and hygiene totals 1.8 million deaths and the loss of greater than 75 million healthy life years. It is well established that investments in safe drinking water and improved sanitation show a close correspondence with improvement in human health and economic productivity. Each person needs 20 to 50 liters of water free of harmful chemical and microbial contaminants each day for drinking and hygiene (Marshall, 2000). There remain substantial challenges to providing this basic service to large segments of the human population.

Fuel

The generation of power causes a range of health impacts. Outdoor air pollution aggravates heart and lung disease. Indoor air pollution, most typically from the combustion of biofuel in poorly ventilated heating and cooking environments

causes a major burden of respiratory diseases amongst adults and children. About 3% of the global burden of disease has been attributed to indoor air pollution from this source (www.environmenttimes.net). In areas where the demand for wood has surpassed local supply, and where people cannot afford other forms of power, there is increased vulnerability to illness and malnutrition from microbiologically-contaminated water, from exposure to cold, and from a lack of properly cooked food. Poor women and children in rural communities are often the most affected by wood fuel scarcity. Many must walk long distances searching and carrying firewood (and often, water) and therefore have less time and energy for tending crops, cooking meals or attending school. For these reasons, adequate energy supplies are fundamental for sustainable development.

Nutrient and waste management, processing and detoxification

Humans are at risk from inorganic chemicals and from persistent organic pollutants in food and water. This can occur both when attempts to access water resources lead to contamination from natural sources, and where human actions result in release of toxic chemicals into the environment (for example through the use of pesticides). Toxic chemicals can cause a variety of adverse health effects in various organ systems. Some chemicals present in industrial effluent or used as pesticides, such as polychlorinated biphenyls (PCBs), dioxins and dichlorodiphenyltrichloroethane (DDT), may act at low exposure levels as

"endocrine disrupters" which interfere with normal human physiology, undermining disease resistance and reproduction (Mader, 1996).

Cultural, spiritual and recreational services from ecosystem

Cultural services may be less tangible than material services, but are nonetheless highly valued by people in all Ghanaian societies. Indigenous Ghanaians obtain diverse non-material benefits from ecosystems. They include recreational facilities and tourism, aesthetic appreciation, inspiration, a sense of place and educational value. There are traditional practices linked to ecosystem services that have an important role in developing social capital and enhancing social well-being.

Climate regulation

Each of the ecosystem services referred to in the previous paragraph is sensitive to climate, and will therefore be affected by anthropogenic climate change. Although climate change will have some beneficial effects on human health, most effects are expected to be negative. Direct effects such as increased mortality from heat waves are most readily predicted, but indirect effects are likely to have a greater overall impact. Human health is likely to be impacted indirectly by climate-induced changes in the distribution of productive ecosystems, and the availability of food, water and energy supplies. These

changes will in turn affect the distribution of infectious diseases, nutritional status and patterns of human settlement.

It is important to state from the foregoing discussions that climate is changing and human behaviour is responsible (Otieno, 2006). Their publicly increased activity is releasing harmful gases into the atmosphere. Even though Africa is trying to develop, most of this development is linked to rain fed agricultural irrigation. Most of the rural communities rely on rainfall patterns for their crops. This has implications for health since most diseases are associated with water; parasites thrive when it floods resulting in more cholera and malaria. Mosquitoes die in certain temperatures but with the warming effect they are able to survive in some highlands. Low lying coastal areas, where most cities in the world are, are particularly vulnerable to ramifications during major storms.

To this end, there is growing concern amongst many natural scientists that human interventions are altering the capacity of ecosystems to provide their goods (e.g. fresh water, food, pharmaceutical products, etc,) and services (e.g. purification of air, water, soil, sequestration of pollutants, etc) (www.who.int/globalchange/ecosystems/en). Ecosystem disruption can impact on health in a variety of ways and through complex pathways. These are moreover modified by a local population's current vulnerability and their future capacity to implement adaptation measures. The links between ecosystem

change and human health are seen most clearly among impoverished communities, who lack the "buffers" that more affluent communities can afford.

Linkages between Environmental Change and Infectious Diseases

As stated earlier in this chapter the environment includes all natural resources (fauna, flora, water, soil and minerals) and ecosystem services (crop production, energy supply and soil maintenance). These resources and services are being degraded mainly because of increasing population and consumption (Ballance, 2006); and its accompanying results are infectious diseases.

The UNEP's Global Environmental Outlook 3 shows that the environment is deteriorating in many regions due to natural and man-made pressures. Such pressures include climate variability, rapid population growth and rising consumption trends that are leading to over-harvesting of resources, and the pollution of air, water and land (Global Environment Outlook 3 UNEP, 2002). The report also points out that these environmental changes impact human livelihoods by reducing food security, increasing vulnerability to natural hazards and disease, and limiting opportunities for economic growth.

Poor countries and poor people carry a disproportionately large part of the global burden of ill health. On average one-fifth of this burden is attributable to

environmental factors, but the environmental contribution in poor countries is ten times higher than in rich countries (www.environmenttimes.net /-admin).

A healthy population is necessary for poverty reduction and economic development, and investments in health have proven to be cost efficient. Although the links between a healthy environment and a healthy population are gaining recognition and attracting investigation, they have rarely been quantified. Below is a graphical representation of one commonly-recognized causal relationship – that between inadequate sanitation and cholera, and one complex synergistic relationship, which is only recently gaining momentum – that of HIV/AIDS and the environment (Fig. 3.11).

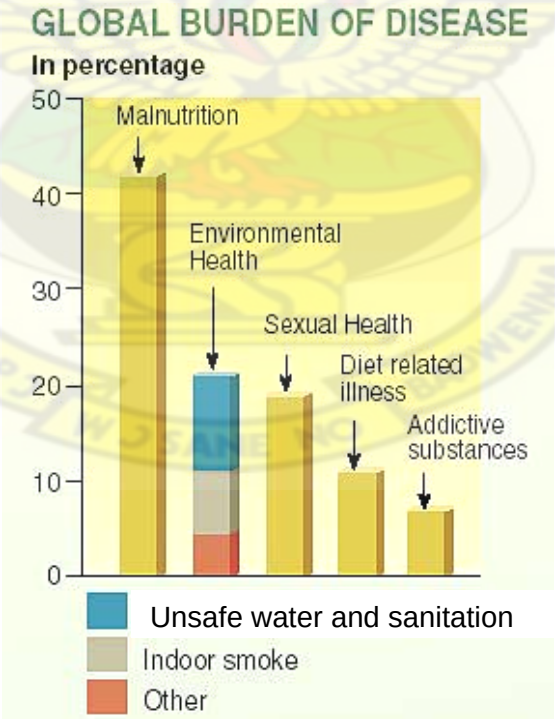


Fig. 3.11 Relationship between health and the environment
Source: World Health Organization (WHO), 2002

The poor carry a larger burden of environment-related disease due to their more direct dependence on natural resources, greater vulnerability to environmental hazards, inadequate access to affordable health care, and often greater vulnerability to climate change. However, as our understanding of these relationships expands, so do the possibilities for meeting the multiple goals of eradicating poverty and hunger, reducing child mortality improving material health, combating Acquired Immune Deficiency Syndrome (AIDS), malaria and other diseases, and ensuring environmental sustainability, through an integrated, holistic approach.

Nevertheless, over the last 30 years the reversal in the declining death rate due to infectious diseases alarmed international health expects (Wilcox and Gubler, 2006). Unfortunately, this optimistic prognosis was premature as a number of diseases have dramatically reemerged. Tuberculosis, cholera, dengue, plague and malaria have increased in incidence. The change in the environment caused by human activities is also apparent in the transformation of much of our landscape and conversion of regional systems once dominated by natural ecosystems. Factors include expansion into urban or peri-urban habitat, deforestation, and the spread of intensive farming. The environment's role in the emergence of disease is apparent in the connections between the direct consequences of human changes to urban and rural landscapes and ecosystems, and the secondary effects on disease emergence factors. Developing irrigated

agriculture, for example, can create breeding grounds for mosquitoes, a rector for malaria. Likewise, the inadequate storm drainage and sewerage systems often associated with rapid urbanization not only increase the breeding habitat for disease vectors but facilitate the spread of waterborne pathogens causing cholera and leptospirosis.

There is a high growth in indirect social and environmental consequence that contributes to multiplying the actual increase in population. Poverty, poor living conditions, including lack of sanitation and infrastructure for waste-water and solid waste management, increases opportunities for vector-borne diseases and others passing from animals to humans. The geographic spread and expansion into peri-urban areas of the mosquito Aedes albopictus, exquisitely adapted for breeding in discarded plastic containers and used automobile tyres, is a good example of how a potential vector of viral diseases has taken advantage of environmental change (Mader, 1996). Lack of sanitation and waste water treatment, and industrial scale intensification of animal production systems, the world over contribute to exotic species, and the proliferation and spread of water and food-borne pathogens. The contamination of surface waters and spread of pathogens is further promoted by the alteration of catchments and watersheds accompanying urbanization, and intensive farming cities channeling streams, removing vegetation on the banks, and filling in wetland – all of which accompany unplanned urbanization – eliminate the natural retention and

nutrient recycling systems, as well as barriers to surface run-off contamination with intestinal pathogens (Wilcox and Gubler, 2006).

In rural areas populations and consumption play a less direct role in contributing to disease emergence, particularly as rural emigration is fuelling the demographic explosion in cities. It is more that urban areas are driving a sustained increase in the timber trade, agriculture, stock raising and mining, resulting in turn in deforestation and changes in land use that are transforming rural landscapes and natural sites in ways that often facilitate the emergence of disease. Deforestation or even "patchy" reforestation leads to ecological changes such as increased edge habitat and local extinction of predators that favour some diseases. The spread and intensification of farming results in the development of irrigation systems, ideal breeding sites for mosquitoes and a habitat for opportunistic insects and rodents that may be vectors or reservoirs for diseases. Dams provide a favourable habitat for other vectors.

Climate change represents a potential environmental factor affecting disease emergence. Slights in the geographic ranges of hosts and vector, the effect of increasing temperature on reproductive, development and mortality rates on hosts, vectors, and pathogens, and the effects of increased climate variability on flooding and droughts all have the potential to affect disease incidence and emergence positively or negatively.

The picture is very clear that the resurgence of infectious diseases as a result of environmental change stems from poor development planning, a lack of political determination and institutional inertia. Rebuilding the public health infrastructure for infectious diseases supports the substantial evidence and a growing number of how regional planning and development, including urbanization, agricultural expansion, and the management and conservation of forests and other ecosystems, which can minimize and even reduce outbreaks of infectious diseases as well as environmental change. However, an integrated approach is highly needed. This approach may involve merging socio-cultural and economic programmes, environmental and natural resource management, with intervention based on environmental aesthetics activities that may involve a whole community.

3.4 Aesthetic Appreciation of the Environment in Relation to Artistic Visual Elements

A widely-assumed rationale for environmental protection is to prevent the loss of its aesthetic value resulting from environmental degradation (Hettinger, 2005). Aesthetics is, however, central to environmental concerns. In other words, the importance of aesthetics to environmental protection is making preserving "the beauty of the biotic community" of the right actions concerning the environment. As a result, cultivating an appropriate aesthetic response to nature is as important as developing an appropriate ethical attitude. This author is exploring

the aesthetic appreciation and value of non-art, in most of all its forms in the environment. In art appreciation, appraisals are critically given to assess the design and extent to which it is successfully embodied in the art object, and this may allow for negative appraisals. In contrast, appropriate appreciation of nature allows for no such critical assessment of design, but rather a search for order that may be naturally provided.

In environmental ethics, Carlson (1984) explains positive aesthetics of the environment as:

> The natural environment, in so far as it is untouched by humans, has mainly positive aesthetic qualities; it is graceful, delicate, intense, unified, orderly, not dull, bland, insipid, incoherent, chaotic. All virgin nature in short is essentially aesthetically good. The appropriate or correct aesthetic appreciation of the natural world is basically positive and negative aesthetic. Judgments have little or no place (p.72).

This explanation supports the fact that all artistic elements and principles of artistic objects (artificial) are all derived from nature. Here, there is clear evidence of contrast between the *design appreciation* appropriate for art and the *order appreciation* appropriate for nature. However, because the humanization of the environment (like art) involves artifice, it legitimizes negative aesthetic appraisal that might not necessarily be appropriate.

In focusing much attention on the formal and functional qualities of the environment, there is much to appreciate. For instance, a new landscape has orderly sharpness, geometric power and elegance, intensity of colour and boldness of line, etc. In short, the environment is full of "breathtaking formal beauty" (Carlson, 1984).

While analyzing the aesthetic nature of the environment it is imperative to indicate that there is gross lack of framing in nature when compared to art. Nature does not come with a frame around it (as does a painting and art works more generally) and this provides a multiplicity of different and legitimate ways of framing it. Budd (1998) sounds very suggestive in his argument that, in contrast with art appreciation, there is no proper level of observation for nature. One can look at nature through a telescope or a microscope, or with one's unaided eye. There are no proper or optimum conditions for observation. One can observe nature when it is foggy or clear, bright or dark, from near or far. In another mode, one can perfectly employ any sense modality or mode of appreciation. In general, one is very flexible in his way of framing natural objects to his pleasure. Thus, there is no such thing as rigid appropriate aesthetic appreciation of nature as it is prevalent in art.

However, as pointed out earlier in this section, aesthetic values inherent in every work of art have their source from nature. Therefore, it is imperative to analyse

meticulously those elements and principles of aesthetics that render any aesthetic object enjoyable. Some of these elements and principles may be in the form of lines, texture, mass, colour, tone, etc.

It is suggestive to indicate that nature, and for that matter the environment, has a visual language. This language, however, is rooted in our common visual experience and primeval heritage, which if not properly nurtured in the individual, there is the tendency of losing the ability to see things fully and completely. Unless we can recover this capacity for full visual experience, much of the language of aesthetics of nature may be hidden from mankind.

Owen (1970) purports that it is not amazing that most adults have lost the art of spontaneous vision, for from adolescence most people tend to use their eyes generally for intellectual perception, to qualify what they see with reservations formed by acquired knowledge and to restrict our view of the outside world to things of practical interest and immediate necessity. From this store of knowledge gained by precept and experience one identifies the people and the place, the objects and objectives of his own environment by the slightest of visual clues and almost blinkered vision seeking only some remembered detail to serve as a recognition signal. For example, if a V.C. 10 aeroplane flies over our heads in the sky each day it probably no longer provides, as once it must have done, a vivid sensation of shape, colour, size, weight, and power. Instead we may record

only an instant, mental snapshot detail – its sound, height and probable destination – since that is all that we are interested in and looking for. Let us take a second look at the environment again and judge this analysis.

The notice, the label, the number, the tag – the head of a person, the gate of a house may provide all that can be demanded for a rudimentary visual code by which the part is briefly noted as a token to record the whole. Perfunctory glance, anticipated images, irrelevant associations, and inherited prejudices may easily produce an aesthetic myopia that is, perhaps, the price we pay for speed, comfort, scholarship, and sophistication. Because of such self-imposed perceptual withdrawal one is rarely started by visual discoveries and may find that they have lost the capacity to be surprised, enchanted, or impressed by the visual phenomena of the outside world – the objects and events of daily life having become only too familiar, ordinary, and explicable.

Judging this from another perspective, an artist may employ shape, line, texture, tone, and colour as the basic elements of his painting. With these he can create the pictorial qualities of form, space, movement, and design. If in everyday life one is not fully alert to these perceptual elements in his environment, he is likely to be less responsive to their possibilities for aesthetic experience in his appreciation of nature.

Critically analyzing what pertains in our environment being accustomed to using our eyes only in order to gather everyday practical information, some of us may therefore seek, when we look at, for example, paintings, qualities and objectives with which the artist is not mainly concerned. Many people unconsciously tend to assume that the painter's purpose is like that of the journalist or the photographer – understandably so, for since one is educated to use one's eyes primarily for literary comprehension there is the tendency of attempting to make only literary sense of the painter's visual symbols and to expect them to provide only factual information. And because a painter, if he chooses, can represent the shapes and colours of familiar things with reasonable accuracy, and is able to create a convincing illusion of the textures, volumes, and spatial depth of the real world, his technical skills may lure us into attempting to read his pictures as if they were enigmatic mines, or cunning scenic reconstructions. These attitudes of approach inhibit and may altogether break the aesthetic contacts, which form true artistic appreciation.

The full appreciation of every visual form is an experience that reaches the individual simultaneously from many levels. The various component elements of aesthetics – shape, line, tone, colour, texture, and so on – are interrelated and interdependent. For one to completely appreciate or experience the aesthetic qualities in nature one cannot examine each of these qualities in isolation. However, appreciation can be reached through the development of latent

faculties, and this is a skill that may be cultivated. As in the cultivation of any skill this can only be achieved through the study and appreciation of each of the aspects in turn.

3.4.1 Visual Elements Inherent in Nature

Visual elements prevalent in works of art take their source from nature. In other words, the environment is the custodian of all visual elements that form the main core of the aesthetic experiences of mankind. Stewart (2002) reveals that ancient people believed that the universe was made from earth, wind, fire, and water. Through experimentation, humans learned how to control these elements to improve their lives. Visual aesthetics is an embodiment of some basic elements such as line, shape, texture, and colour. In analyzing a natural object, for example, the picture of the flowers (Fig. 3.12) below, all the visual qualities are brought to bare in this natural composition.

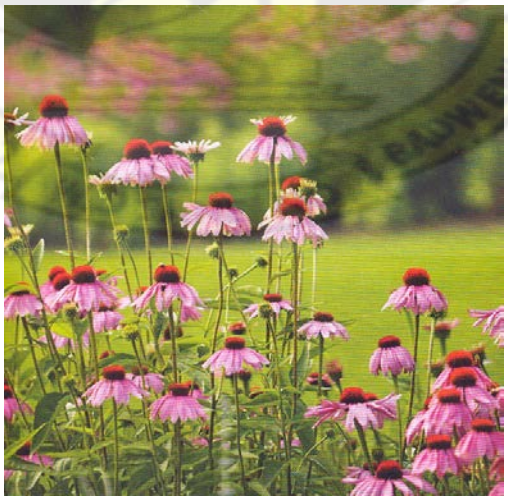


Fig. 3.12 Visual elements found in nature
Source: Photographed by the researcher

Looking closely at the visual composition of the flowers, it is obvious that nature has used ***lines*** to connect the stalks of the flowers to the petals and the leaves. Secondly, nature has created the ***shapes*** of the flowers and set them against the ***space*** of the vegetation behind. The flowers and the leaves have a ruffled ***texture***, contrasted with the seemingly hazy or blurred background of the vegetation behind. This natural composition is full of ***light***, which illuminates this cheerful outdoor or landscape scene. Aside from this, nature employs a range of ***colours*** – red and light pink from the flowers, forest green and dark green from the leaves, stalks and the vegetation behind. There is also a range of ***values***, from the lightest in petals of the flowers to the darkest in the pollen grains on top of the petals and the vegetation in the background.

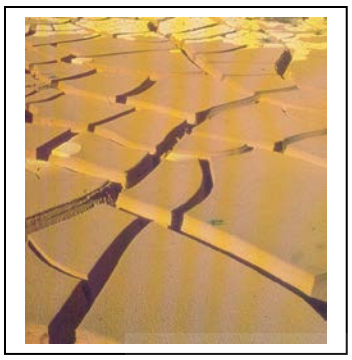
These seven elements in the natural composition of the flowers to induce a vivid aesthetic experience – line, shape, texture, light, value (tone), colour, and space – are the vital ingredients man *(the artist)* usually employs in any work of art. These are referred to as visual elements in aesthetics. No matter what kind of natural or artificial object found in the environment, no matter where in the world, the kind of biotic or abiotic environmental constituents and the way they are formed in their natural and/or artificial setting, the character of these visual elements will always prevail.

Below is a detailed analysis of the various visual elements, what they are, how they function and how they affect the visual quality of the aesthetic experience of the environment.

3.4.1-1 Line

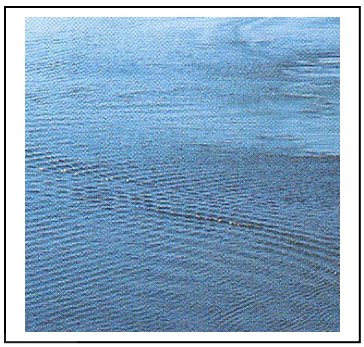
By conventional definition, a line is the path left by a moving point (Gilbert, 1992). The use of line as a means of defining shapes is a natural convention. Children's drawings, prehistoric magic signs, and modern city-wall graffiti suggest that it is a primeval instinct to make shapes by drawing or making outlines on any available surface (Owen 1970). These analyses or descriptions of line suggest that this mark is done consciously by man. However, man's (or the artist's) creation of line is an abstraction from nature since no visible bands outline the shape of things in the outside world.

In the environment, there is a myriad of objects in nature that manifest the presence of lines in the natural as well as the built environment. Brick-bonding is a pattern in lines, for instance, as are the narrow gaps between paving-stones, the channels in the bark of a tree, the cracks in dried mud, the thin light and dark streaks of water ripples, twigs, stems, cobwebs, etc. (Fig. 3.13). In nature, the visual character of linear symbols may not necessarily appeal to us if one does not develop the critical eyes to discern its relevance to aesthetic response.

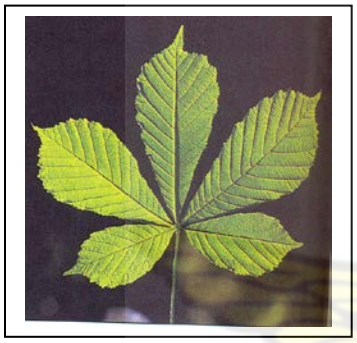


(a) Cracks in dried mud

(b) Terracing

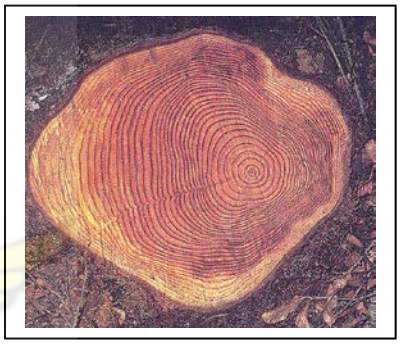


(c) Water ripples)



(d) Veins in leaves

(e) Strata in rocks



(f) Wood grains

Fig. 3.13 Lines as visual element found in nature.
Source: Photographed by the researcher

Also, in nature, it is characteristic to find different forms of line. This can be in the form of textured lines, which can be thick or thin moving in horizontal, vertical or diagonal directions, or defining a contour. Aside from the natural environment the built environment has man's conscious application of different forms of lines that can be conspicuously seen in buildings, bridges, roads, etc., which induce in totality an aesthetic pleasure that can be appreciated as in any work of art. In a building, (Fig. 3.14) curved lines, horizontal lines, diagonal lines

and vertical lines define the shape of the edifice which either renders it aesthetically pleasing or distasteful to appreciate.

Fig. 3.14 Different kinds of lines found in the built environment
Source: Maison Magazine, Vol. 23 No. 3

In works of art, however, line as outline and form is central to creating art. It is therefore used to create the illusion of three-dimensional form. Without lines an art form may be difficult to conceive and perceive. They form the life-blood of every created object by man that often implies movement, emphasis, pattern and texture.

3.4.1-2 Shape

The full appreciation of nature, and for that matter, environmental organisms, may probably stem from the visual pleasure afforded by the sensuous nature of the surfaces of things in perfect accordance with their shapes. Sometimes the physical appearance of the shape of things from nature such as trees, rivers, mountains, etc. manifests uncompromising precision that may probably be stimulating to the visual responses of mankind.

Shape may mean any area on a flat, two-dimensional surface (Owen, 1970). This definition is strictly limited to works of art such as painting. In contrast, natural environmental objects, which are mostly three-dimensional, have shapes that define their forms for aesthetic assimilation.

In works of art, however, shapes are made in a number of ways. They may be defined in a painting as the boundaries of apparently weighty objects that seem to exist in a three-dimensional picture space, or they may be composed from parts of different adjacent objects or exist as the gaps, or negative shapes, between objects. It is important for one to be able to see shapes by whatever means of communication and its flat shapes provide an expressive vocabulary for every style and for the interpretation of any subject.

Being a self-contained defined area of geometric or organic form, a shape, in whatever form, may automatically have positive and negative areas. For instance, the space occupied by a building or a tree or a lake or a mountain may be regarded as a positive shape, whereas the background to these environmental constituents may form the negative spaces in the natural environment.

In works of art, areas defined as geometric or organic form may be successful as expressive images because the simplicity and directness of their design enable one to read them easily as complete shapes. Such shapes are usually found to have geometrical units since most people can immediately perceive the total area of a circle, a square, a triangle, an oval, or a rhombus without difficulty. In other words, it is customary to distinguish two broad categories of shapes, organic and geometric. Geometric shapes are based on the mechanically drawn line including square, rectangle, circle and triangle. Organic shapes are based on the forms of nature, which are usually rounded, irregular, and curving. In two-dimensional settings, space may probably demand leaving some blank areas. Sometimes human's eye needs space to feel comfortable, and it will let the human's eye distinguish the parts that is meant to be noticed compared to just the background.

Similarly, shape that has volume and thickness may be referred to as form. This is the structure of a shape as it is viewed from a three-dimensional point of view.

Apparently, all objects found in our environment have form that can be touched and viewed from any angle.

Focusing intensely at the environment, it is normal for us to be immediately aware of those shapes whether appearing as two-dimensional or viewed well in their three-dimensional form as a result of going round a particular object – as vibrant whole shapes.

If one is incapable of responding to the living, sensuous qualities of nature's shapes, it is very important to develop a technique for seeing shapes as shapes or forms and in their entirety. Just as somebody may be tempted or compelled to intensify his aural concentration and sharpen his sensitivity to the quality of sound in music by occasionally making himself listen intently and unselectively to all the noises of the outside world around him at a particular time, so it is important to overcome a temporary condition of shape-blindness by practicing a technique of visual perception on the things in his immediate surroundings.

Also, one should take a critical, meticulous perusal at the environment in order to appreciate various shapes that are available. One should be able to see the similarity of any three-dimensional form to that of a mental image of a flat quasi-geometrical shape if one focuses one's eyes first upon its outside edges and considers the area within these boundaries in terms of its most distinctive

quality. Thus, the area is best described by its relative lightness or darkness compared to its surrounding field or by its particular colour, or by some special texture or pattern. If, for example, a person is sitting at a carefully trimmed landscape he might look towards each image around him in turn and staring intently at the edges of every object that falls within his field of vision, fixate it as a shape of tone, colour, or texture until he begins to see its likeness to a particular geometrical figure.

When analyzing such a landscape design (Fig. 3.15), we may see from its natural outlook that, the top of the pedestals for the flower pots and dark brown pavement blocks are *rectangles*; and the pedestal itself is a *square*, the tops of the two flower pots are *ovals*; the green hedges are *ellipses*; and the red flower at the left side is a *triangle* in character.

Fig. 3.15 Different shapes found in environmental objects: Landscaping
Source: Photographed by the researcher

Looking at the aesthetic nature of the environment, it is important to indicate that staring intently enough, one may find very soon that these images in our environment might have lost their usual conventional visual identity as practical objects, and that they are being seen only as light or dark, coloured or textured rectangles, squares, circles, triangles, and ovals. One should also have become aware that one is not making any of the usually instinctive allowances for perspective shape distortion. Environmental aesthetics and/or nature aesthetics therefore plunges the viewer into a state of heightened shape – awareness which enables us to see even subtle and complex forms as complete areas – as we may realize when a bowl of flowers, for example, is seen simplified as an overall mass of coloured and textured oval, triangular, and rhombic shapes. In this situation, one finds that as a temporary optical condition this state is as irresistible as that familiar sensation of 'colour everywhere', which often dazzles the individual when he leaves the cinema after having watched an imaginatively photographed colour movie.

In the world of art, the means by which one is able to see and appreciate an image (shape), especially in a painting not only for its illusion of weight and volume but also for its qualities as a flat shape, are those by which one achieved this double reading of the things around him in the perception experiment. That is, by concentrating upon the edges of the forms described in a 'depth composition', and perceiving the areas of paint that lie within them as

destructive shapes of tone, colour, or texture, one is able to appreciate the two-dimensional quality of the most convincingly expressed solid forms of a picture.

Shapes and all the other component elements of aesthetics [line, tone *(value)* colour, texture and space] have their own expressive meaning and emotional character. These qualities of shape are as important as their actual and symbolic significance to the appreciation of the environment.

3.4.1-3 Colour

Colour is probably the only phenomenon among the visual elements that gives us so much pleasure (Gilbert, 1992). It can therefore be defined as the physical phenomenon of light or vision associated with the various wavelengths in the visible portion of the electromagnetic spectrum. As a sensation experienced by human beings and some animals, perception of colour is a complex neurophysiological process. In the natural and built environments, a variety of colours can be found and these colours serve as source of inspiration for various activities.

Gilbert (1992) points out that various studies have shown that colour affects a wide range of psychological and physiological responses. Example is cited of restaurants that are often decorated in red, which is believed to increase appetite and therefore food consumption. Also, a common treatment for premature

babies born with potentially fatal jaundice is to bathe them in blue light, which for reasons not fully understood, eliminates the need to transfuse their blood. Blue surroundings also significantly lower a person's blood pressure, pulse, and respiration rate. Additionally, in one Californian detention centre, violent children are routinely placed in 240 cm x 120 cm cell painted bubble-gum pink. The children relax, become calmer, and often fall asleep within ten minutes. This colour has been dubbed "passive pink." It is, however, clear that colour works on the human brain and body in powerful ways.

All colours are dependent on light, and no object possesses colour intrinsically. In 1666 Sir Isaac Newton passed a ray of sunlight through a prism, a transparent glass form with nonparallel sides. In this experiment, a ray of sunlight broke up or refracted into different colours, which were arranged in the order of the colours of the rainbow (Fig. 3.16). Light from many sources, such as sunlight, appears white. When white light passes through a prism, however, it separates into a spectrum of varied colours. The prism bends, or refracts, light of different colours at different angles. Red light bends the least and violet light bends the most.

By setting up a second prism Newton found he could recombine the rainbow colours into white light, like the original sunlight. These experiments proved that colours are components of light.

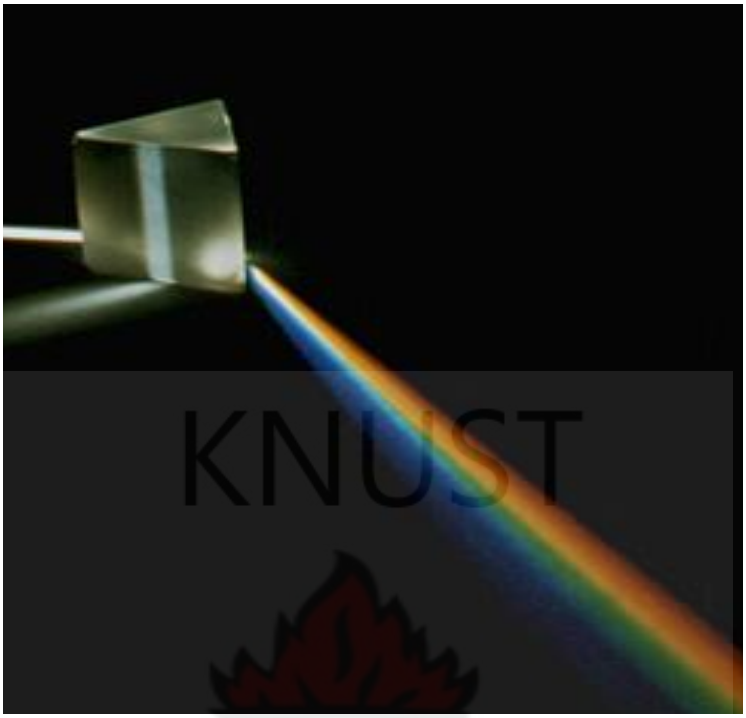


Fig. 3.16 Separation of White Light into Colours
Source: Microsoft ® Encarta ® Encyclopedia 2003. © 1993-2002 Microsoft Corporation.

In his analysis of colour, Owen (1970) indicated that when artists have new ideas to express they have to find a new visual language through which to communicate them. He pointed out that in past periods this had generally involved a change in the function and character of shapes, lines, and tones, together with new ways of composing or arranging these elements on the picture surface.

The beginning of the twentieth century saw colour established as a primary means of pictorial communication. Matisse, for instance, found that colour could not only interpret the intensities and vibrations of light, the structure and volume

of forms, and express the artist's emotional response to a particular visual event in nature, but that it could also create its own events on the surface of a picture. These colours, by their relationships, could provide their own kind of balance, rhythm, structure, texture, and spatial dimension independently of any forms or recognizable themes in any composition involving line and tone.

Assessing colours present in our environment, many people, perhaps, are interested only in the more striking manifestation of them in the bizarre display of a sunset or a rainbow, in the novelty of exotic blooms or brilliant plumage, and are scarcely aware of the continuous carnival of colour which many people see in the same environment. Unconsciously, most people tend to acquire prejudices and preference determined by personal sentiment and experience or imposed by fashionable taste (Owen, 1970). Since the colours of things are transmitted to us by light radiations, objects lose their colours under moonlight or in a dimly-lit room, even though their spatial form is still clearly perceived. Unlike qualities of shape, volume, weight, and texture, colour is not a permanent property of the things one sees but is the most elusive and subjective of all the visual elements in nature.

Colour is a very important thing to experience in our daily endeavours. However, because our colour memory for things we see is poor we usually think of things and refer to them in terms of local colour. Thus, we speak of ***green*** grass

and of ***red*** or ***yellow*** brick even though we would be unlikely to see their inherent colour except under unchanging light at noon or a clear but overcast day. Under all other conditions the colours with which we associate things are modified by the effects of sunlight, reflection, and shadow; and in some degree also by the retention in our eye of the colour we have seen immediately beforehand. Yet so irrevocably are certain lines associated with certain things. Some things are, however, named by their local colour and some colours are named after particular things, oranges, lemons, roses, violets, apple-green, sea-green, sky-blue, daffodil-yellow, lavender, lilac, and so on. Clearly, these are things from the environment and different hues of colour are associated with them. In other words, they serve as the source of the various colours that we can get.

In nature, only the colours that are linked to things in the environment make man to become insensitive to many of the ten million or so different colours around them. This automatically becomes the 'natural' way of seeing many aspects of the natural, and possibly the built environment. As a result, one becomes more sensitive to the different dimensions of colour, and this sensibility is highly essential to the appreciation of colour in our environment.

Modern technology has made the understanding of colours more comprehensive. In physics the colours of the spectrum may be obtained by

various mixtures from a triad of coloured light beams. Red, green, and blue-violet form one of a number of these light triads, if all three of these light-beams are mixed, white light will be transmitted. These light triads referred to as additive primaries are important to those concerned with stage lighting, psychedelic happenings, colour television, and the continuing research into colour vision. Nevertheless, the perception of the colour in each part of a scene depends on more than the amounts of light of different wavelengths coming from it. When one takes an object from artificial light, which contains a great deal of reddish, long-wavelength light, into daylight, which has more short wavelength, bluish light, the composition of the light reflected from the object changes greatly.

Yet one generally does not notice any change in the colour of the object. This colour constancy is due to the ability of the eye-brain system to compare wavelength information from all parts of a scene (Microsoft Encarta Encyclopedia, 2003).

The foregoing analysis indicates that the human eye does not function like a machine for spectral analysis, and the same colour sensation can be produced by different physical stimuli. Clearly, both the physiological activity of the human eye and the science of electromagnetic wavelength take place in colour codification. Naturally, colours are distinguished by their relative warmth or

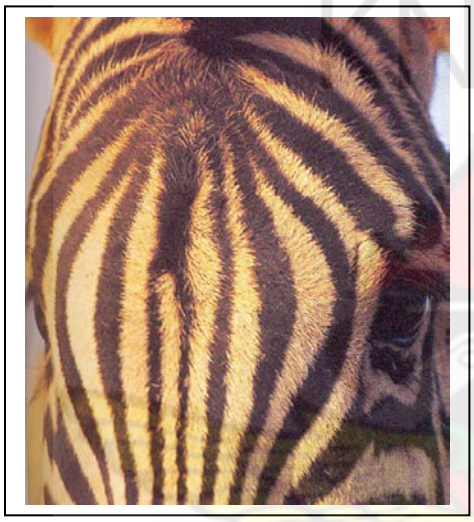
coolness. For various physical, psychological and physiological reasons colours containing a quantity of blue appear cooler than those containing a higher proportion of yellow or red. There are relative distinctions since different scenes from the environment are composed of the full range of basic hues. Yellow-green, for example, is seen as a cool colour when in the company of reds, but in a pattern dominated by blue or blue-grey it would appear comparatively warm. But since in most environments an area of warm colour will appear to advance in front of a cool one, nature automatically reveals an illusion of depth and volume, which often uses colours from the blue range to interpret receding planes, and colours advancing plane.

3.4.1 -4 Texture

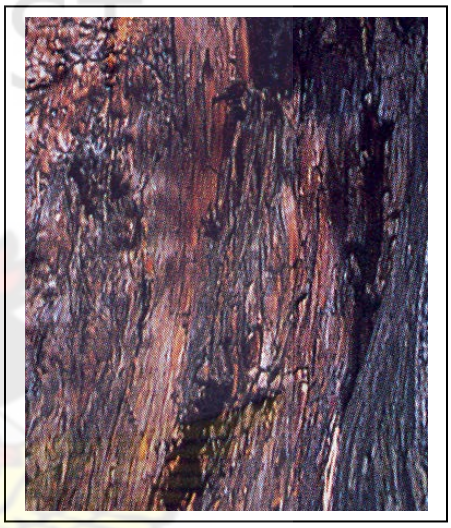
In our everyday activities, we encounter different surface qualities of objects – either animate or inanimate in our environment. These surface qualities induce a feel or tactile qualities of a thing which may be rough or smooth, course or fine, pitted or prickly, grooved or ridged, furry or silky. These actual or tactile qualities of surfaces of things that man experiences through the sense of touch are what is referred to as texture.

In the world of art, artists concern themselves with simulating the appearance of these relief qualities as an important expressive element of the artist's language. As indicated earlier in this section, the environment is full of different varieties of

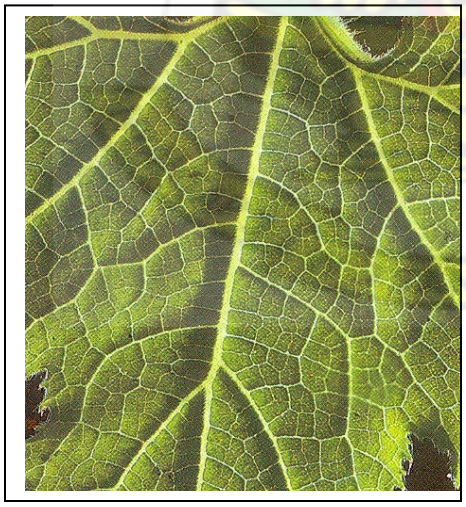
texture which serve as the source of inspiration for artists. The world would have been bland and uninteresting without contrasts of texture (Gilbert, 1992). These different kinds of texture can be enjoyed in themselves for their sensuous feeling and the level of appreciation of textures are experienced as visual sensations of vibration and enrichment.



(a) Texture in animal fur



(b) Texture in wood grains



(c) Texture in veins of a leaf

(d) Texture in bird plumage

Fig. 3.17 Some textures found in natural objects
Source: Photographed by the researcher

In appreciating the aesthetic qualities of the environment, one needs to develop one's sensibility to the way in which the texture of things around us may be both sensuously portrayed and vividly expressed: a tree-bark, animal fur, bird plumage, the grain of wood, the veins of leaves, the relief-patterns of architectural ornament, rock-strata, breaking clouds, foot prints, frosted cobwebs, etc. as shown in Figure 3.17 above.

Suggestively, textures, like the other elements of shape, line, tone, and colour, can evoke sensations of volume, space, and movement in things found in the environment. Also, textures contribute essential qualities of contrast and balance that should be experienced as visual sensations across the entire environment which makes one conscious of the effect of the contrasts and harmonies in the natural or deliberate arrangement of other aesthetic elements.

As humans, we are very much interested in various kinds of textures in our everyday endeavour. Instinctively, textures are taken into account in selecting things in all facets of our environment. In effect, some individuals derive some enjoyment when they rub their hands in the fur of pets for the textural feeling as a result of the sensations that are evoked.

In the world of art, however, textures can be described as visual or actual. Visual textures are a perception of the surface quality of things which may be smooth or

rough, flat or bumpy, fine or coarse. In contrast, actual textures are physical, which are experienced through the sense of touch. The rougher the texture, the greater is the difference in surface elevation. In art, actual texture is associated with sculpture, architecture, and the crafts. Nevertheless both natural and artificial environments give us actual textures which can afford great sense of sensations. Thus, the tactile (actual) qualities of natural surfaces convey the visual sensations of light, volume, space, or movement that give psychological enjoyment when experienced by homo sapiens.

3.4.1 -5 Tone

Tone, also known as value is the quality of lightness and darkness, whether in colour or black and white (Owen, 1970; Gilbert, 1992). Value contrasts – contrasts of light and dark – may be prevalent in environmental or natural objects as well as the built environment in order to show the effects of light and shadow in the natural world.

In the natural world, one may experience two kinds of tones: actual tonal qualities of an object and perceived lightness and darkness as a result of time and place. The former may be experienced in the permanence of the physical value of the quality of lightness and darkness irrespective of where that particular object is. However, the latter may be experienced, and this may temporarily be in the objects and the value achieved only when light falls on this particular object at a

particular point in time. This means that the value may keep on changing depending on the intensity of light or the time of the day. In effect, the contribution of tone to the language of aesthetics is achieved through the interplay of various degrees of lightness or darkness. The sensitivity to tonal variations is easier to cultivate than is, for instance, the ability to recognize, for an appreciation of music.

To be able to appreciate value in the natural environment, it is important to indicate that colour relationships are vital to the expressive functions of their tonal qualities. Though the tonal qualities may not easily evoke the immediate emotional response of colour, nor will the tones of the natural environment be as readily perceived as their textures, lines, and shapes, tone is a most important and fascinating aspects of the aesthetic appeal of nature that attracts and arrests the attention of anyone appreciating these objects.

To fully comprehend the visual qualities of the environment one should analyze the various qualities of tone exploited by nature itself. The emotional expression that breaks up the aesthetic response of any natural object as a result of light and dark shapes, create illusion of light, form, space and movement. The viewers may, probably, suddenly recognize these functions and may immediately elevate their level of appreciation. In addition, these expressive tonal responses evokes man's awareness to feel a tonal interpretation of form or space or illumination as

a sensuous, tactile, and emotional thing and experiences in visual phenomena of everyday life in his natural and built environments.

3.4.1-6 Space

Space is an indispensable element as far as appreciation of aesthetic qualities of the environment is concerned. It may be described as the blank areas in which an object exists. The human eye needs space to feel comfortable, and space lets the human eye distinguish the parts of an object in the environment that are meant to be noticed and appreciated compared to the background. Space enriches the tactile and kinetic sensations of the environment. The universe is a wide expanse of space that inhabits the varieties of creations giving them life and existence. The perception of the formal qualities and spatial relationships of things and places around us at anytime is considerably influenced by practical necessity and emotional reactions. And the spatial sequences into which we re-shuffle our impressions of the three-dimensional characteristics of things in recollection and in dreams will usually be very different from their measurable dimensions. In the natural world, experiencing space, using perspective visualization creates different degrees and kinds of spatial illusion.

In the world of technology, the word "space" is sometimes used to convey the idea of nothingness (Gilbert, 1992). Human beings think of outer space as a huge void, hostile to human life except when protected by complex support systems.

A person who is "spaced out" is blank, unfocused, not really "there". On the contrary, the space in and around a work of art is not a void, and it is very much there. It is a dynamic visual element that interacts with the lines and shapes and colours and textures of a work of art to give them definition.

In nature, however, we experience real or actual space. But in the world of art there are two distinctive forms of space: three-dimensional space and two-dimensional space. Sculpture, architecture, and all forms with mass exist in three-dimensional space (Fig. 3.18).

Fig. 3.18 Interior of a large hall: carving out space in architecture
(Manciples Building, KNUST, Kumasi)
Source: Photographed by the researcher

Ostensibly, works of art take their character from the individual ways in which they carve out sections of space within and around them. Works that give clear evidence of carving of space can be seen in architectural works. Without the walls and roof of a building, the space would be limitless; with them, the space has boundaries and therefore has volume.

Aside from this, space is also a vital element in sculpture – especially monumental sculptures, e.g. the Kwame Nkrumah University of Science and Technology (KNUST) Peace Pole (Fig. 3.19). The space around them plays an active role by giving the sculpture its interests and power. Unlike sculptures and architecture, two-dimensional space is applied to painting, drawing, print, or any other type of flat work of art.

Fig. 3.19 The tallest Peace Pole in the world, KNUST-Kumasi
Source: Photographed by the researcher

The foregoing discussions are suggestive of the facts that the appreciation of the environment is highly dependent on the legitimate employment of those visual elements to be able to assimilate the aesthetic responses of the natural and built environments. However, to indicate that art objects have been designed for aesthetic appreciation by an artist may well put constraints on proper appreciation that are lacking in the appreciation of objects not so designed. This may, probably, depend on one's theory of art. It is not clear that certain formalists would assent to it and the claim puts weight on the artist's intentions that anti-intentionalists may reject. Nonetheless, it needs to be noted that intentional design cannot only constrain the aesthetic response but open up avenues for more interpretations and types of appreciative responses. There is a greater multiplicity in appropriate appreciative responses in aesthetics. Consider the appreciation of a landscape versus the appreciation of a painting of a landscape. A landscape painting could have all sorts of meaning that a landscape itself does not. In interpretation and evaluation of a landscape painting involves issues of artistic intent and style and cultural context of the painting that both constrains and complicates its appreciation. The lack of artistic intent behind the object of nature appreciation removes a type of complexity of this might actually limit the multiplicity of appropriate visual responses to it.

Based on this analysis, it is evident that we can successfully and vividly appreciate the natural environment bearing in mind the functional appeals of the

visual elements such as line, space, texture, tone, colour and shape. All these visual elements play significant emotional and visual roles in things like trees, seas, mountains, lakes: the entire natural and the built environments.

3.4.2. Aesthetic Equilibrium between the Natural Environment and the Artistic Environment

Over the last twenty years a growing sensitivity towards the earth and its ecological degradation has produced an important development in the field of aesthetics. One of the most meaningful theoretical consequences of this was the tendency to consider and appreciate the aesthetic qualities of the environment in which people live. Such perspective implies an increase in attention towards nature's scenes, giving them a new status of aesthetical relevance. It is, however, important to consider the distance and boundaries (i.e. equilibrium) between human beings and nature, that any other aspect of our culture may easily influence its aesthetic analysis. Consequently, the horizon of aesthetics may expand if its main subjects will not be only works of art, but places such national parts, game reserves, plantations, landscape gardens, subways and flyovers, etc.

In environmental aesthetics, the inequality of the difference between the aesthetic experience of nature and deeper and more specific understanding of human production and evaluation of art Sama (2000) indicates that an ever expanding body of research has demonstrated that environmental aesthetic values are

shared among the population. This is suggestive of the fact that the research findings of such values probably, may not be idiosyncratic, random or arbitrary. It is, however, a common knowledge, for example, to see millions of people visiting Niagara falls for the appreciation of its beauty. Also, in Ghana many places have been recognized for their beauty and designated through the government political processes, reinforcing the motion that environmental aesthetic values are shared. The Recognition of aesthetic resources also occurs at local levels through zoning, planning or other public means. That these special places are formally recognized is a matter of public record.

The combination of the experiences that hold a role in the creation are not only those that the artist has outside of his work, but which differentiates and forms the artist's psychological state. For this reason, the work of art is not only fundamentally present in the reality of the life, but includes those experiences derived from the artistic creative activity.

Critically analyzing the balance between this natural phenomenon and artistic creations, it is deduced that conceptual evolutions lead to a definite line dividing artistic work and nature. This provides us with the aesthetic harmony that is generated through a mutual combination between the two entities. In other words, a great interest may be generated to enable us understand the union of nature and artistic creation and even a harmonious fusion of both.

An artistic experience of nature demands the presence of nature, concretely of the main natural elements characterizing the environment, such as the rocks of the mountain, the waters, the vegetations, the sky, clouds, and the light of the sun, etc. On the other hand, aesthetic experiences of an original sense of nature could signify that the artist's task would be to look for the correspondence of elements inherent in nature; i.e. looking for the way in which nature expresses nature.

In view of this the natural environment with its heritage attributes should be considered from the aesthetic point of view. Thus, the environment is not just about birds, trees and other animals. It is a totality of the living community of the planet and also the non-living materials with which it interacts (including rural land use and the built environment of urban areas). In many localities, high quality natural environment does not occur in isolation from interaction with the human community.

In most areas of the developing world, the relationship between human society and the natural environment has been so pervasive that the environment bears traces of modification and/or damage which cannot be repaired by simply abandoning the locality to return to nature. Consequently, the management and aesthetically appreciating both the natural and artistic environment should be

implemented by using the language of design that responds to the complex requirements of today's environment.

The identification and respect for the language of effective design is an important step to include aesthetics in architectural practice. Creating the "words" that comprise this language of design is a workable solution in tackling environmental issues.

These "words" (which have been called patterns, principles, guidelines, etc) can be specific (like *Visible Entries*) or they can be more general and address issues of form (ie., scale, proportion, symmetry, asymmetry, light and shadow, texture, and colour), order (i.e. axis, hierarchy, repetition, and rhythm, and *meaning* (ie. symbolism and metaphor).

Promoting the aesthetic look of the natural environment is highly dependent on human creations. Architects mostly involved in the built environment must rigidly restrict themselves to some requirements that may probably, serve as aesthetic opportunities. For instance, sustainable designs may lead to buildings designed to maximize energy conservation through the use of larger windows and more appropriate landscaping, which will contribute to an improved aesthetic (Gillem, 2005).

Likewise, durable designs should incorporate materials that have an inherent beauty, from brick facing to tile roofs. Aside from these, safe designs may incorporate elements like stoops and porches that allow for more view from the interior that is very attractive than fortress buildings.

In a holistic response to the necessity of a mutual balance between nature and artistic world much depends not only on the perceptual power of materials, but also of the arrangement, location and combination of this creation of a space. This defines in quality and quantity the main perceptions in the experience of the artistic work implying different aspects to the single perception. Therefore, a complete aesthetic appreciation should require the consideration of the specifically artistic actions of the building process. In this case, the expression of nature can be the result of the process of actions on nature during the creation. Consequently, these conceptual elements may give in-depth analysis to show how art and nature can combine.

Furthermore, using the visual elements gives a vivid description of the connection between nature and artistic projections. The main features of man's creation express things independent of any emotional experience. However, the inherent attributes of different forms of works clearly are associated with an emotional experience that can involve different types of emotional pleasure. First, there is a component of aesthetic pleasure in the vision of man's creations,

where it is possible to appreciate the union of creative formal aspects with a strong innovation sense with the experience of their rich material and aesthetic quality that develop their strength in a sensual experience of perception. The voyage through the interior of a natural entity, for instance, is a journey through a space where the perspectives have been perfectly studied to provide precise visions, to show singular elements that acquire cohesion with movement through work, and one always has the opportunity to appreciate the subtlety and virtuosity of the technical and formal solutions as elements that pursue an aesthetic finality.

Secondly, there is a deeper vision in the meaning of the association of pleasure and experience of nature if one should consider the way in which the artistic world is constructed that configures the main visual elements in natural harmony with nature. This supports the experience of man's proximity to nature and this creates an environment that is conscious of the planned use of buildings, parks, gardens, landscapes, etc. The consequence of this is that its use exposes how wide the value of perception is and it implies a direct corporal contact with the built environment, which brings out the nudity that makes the relationship with the environment more intense.

It is therefore suggestive that the proximity of the natural environment to man reveals the wealth and perceptive force of the experiences that can provoke a

relationship with nature where the expression of its genuine presence goes together with pleasure. A pleasure not only for relaxing, but of the contact with something more and more elusive.

CHAPTER FOUR

METHODOLOGY

4.0 Overview

This chapter outlines and seeks to present the research design employed in ensuring the successful execution of this research. In addition, the chapter deals with data collection methods used to gather relevant information for the research. Finally, the chapter gives a vivid description of the study zone.

4.1 Research Design

In this study, the Descriptive method has been largely employed in order to have a clear and logical presentation of ideas and facts. The Descriptive analysis simply helps the researcher to examine the phenomena at hand and describes vividly what the researcher has encountered. As a Qualitative research, observation is a naturalistic research or inquiry (Taylor, 1993) into everyday living. Direct observations are made of the changes that might have altered the natural look of the environment in a negative way. Aside from this, the aesthetic appeal of the environment has been appreciated through direct and critical observations.

Drawing on symbolic interaction theory (Blumer, 1969), naturalistic researches like this promote the gaining of knowledge from sources that have "intimate familiarity" (Lofland, 1976) with an issue which is far better than "objective" distancing approach that supposedly characterizes quantitative approaches (Haworth, 1984). The Descriptive survey seeks to observe with close scrutiny the research parameters, after which a recorded version of what the researcher has observed, through photography, can be subjected to critical analysis in order to discover the results. Furthermore, ethnographical studies have been carried out to get an in-depth knowledge into the core zone earmarked for the study to be able to better comprehend the cultural perspectives of the people of Greater Accra.

In this research, Descriptive Survey techniques for data collection are viewed as compatible with the knowledge and values of the socio-cultural basis of the core zones (Epstein, 1988). The observational phase is characterized by recording the information with a digital camera, setting down of facts and a presentation of data.

As already stated earlier on in this chapter the technique of direct observation has been the principal means of data collection. Also, the study zone was carefully selected due to the complex nature of environmental issues and

aesthetic values, which were specifically delimited in order to set precise parameters for ensuring discreteness to the core zone.

Furthermore, environmental issues are complex and critical problems that have been examined by several people through diverse means. Unfortunately, one group of people like the natural scientists have been unable to satisfactorily attack and address these environmental menace caused by human-induced factors, or those that are beyond scientific explanation (Nsiah-Gyabaah, 1994). Consequently, this present researcher has adopted the following techniques to support the descriptive method: Field survey, Direct Observation and Interviews.

Field survey

Firstly, the area under investigation is defined. This is done to establish the physical and socio-economic variables on which data would be required. A reconnaissance field survey was carried out with maps to verify and cross-check data on the effects of environmental degradation.

A technique called rapid rural appraisal (RRA) was used during the reconnaissance survey to collect basic information about the people and the micro-environment of Accra and its environs. Questions were asked concerning: socio-economic activities of the local people, the notion of the people as regards

the change of the environment and the possible socio-cultural dynamics that affect the environment positively and negatively.

The RRA approach was useful in establishing a good rapport with the local people. Through informal discussions with community leaders and inhabitants, it was possible to have a general overview of the micro-environment and to understand some of the less straight forward, less technical but important socio-cultural issues of relevance to achieving the research objectives.

Direct Observation

To successfully ascertain the facts about the effective means of using aesthetics to improve environmental issues is largely dependent on researchers and local people. Consequently, the direct observation and 'participatory' approach, commonly used by Sociologists and Anthropologists in attitudinal and community surveys were employed. The direct observation technique is a useful approach because what people perceive as surface changes are always perceived at some level of resolution since most subtle changes observed by the ecologists in the field would normally not be perceptible in satellite images, direct observation becomes the most effective means of recording subtle landscape changes.

Aside from the foregoing techniques, most of the critical issues concerning the environment were subjected to a thorough internet search. Information got were carefully compared, contrasted and cogently presented to support the research findings. This also involved the review of literature belonging to experts who have attempted answering questions on some aspects of the problems identified.

Another important research technique adopted in this research is what the researcher termed Reflection. Philosophically, reflection means an investigation of an act of cognition. In this research, it is used to capture an inorganic nature, on the one hand, and in living nature of social life, on the other, where it is active and is exercised by highly organized systems possessing an independent force of reaction, such as biological metabolism at the lowest level and the deliberate, creative, anticipative and transformative activity of man at the highest (Frolov, 1984). Though the facts about the environment are largely physical issues concerning its aesthetic considerations it is highly dependent on the cognitive deliberation of the human mind. This involved an emotional condition arising in the process of aesthetic perception of phenomena of reality or works of art.

Judging the 'beauty' of the environment through aesthetic feelings is a kind of response to this perception which can be expressed through the feelings of the beautiful or the sublime, the tragic or the comic. Man's aesthetic experience is not limited to aesthetic feelings, but it cannot exist without them. Furthermore,

since reflection may be considered as a bi-product of emotional requirement, it renders aesthetic feelings a product of man's historical development. They also reflect the level of society's aesthetic consciousness. Environmental aesthetics which materialize the aesthetic feelings in physical forms are effective means of either ideological or emotional education. In effect, having been captured in the researcher's technique, reflection is meant to be a source of human joy and inspiration.

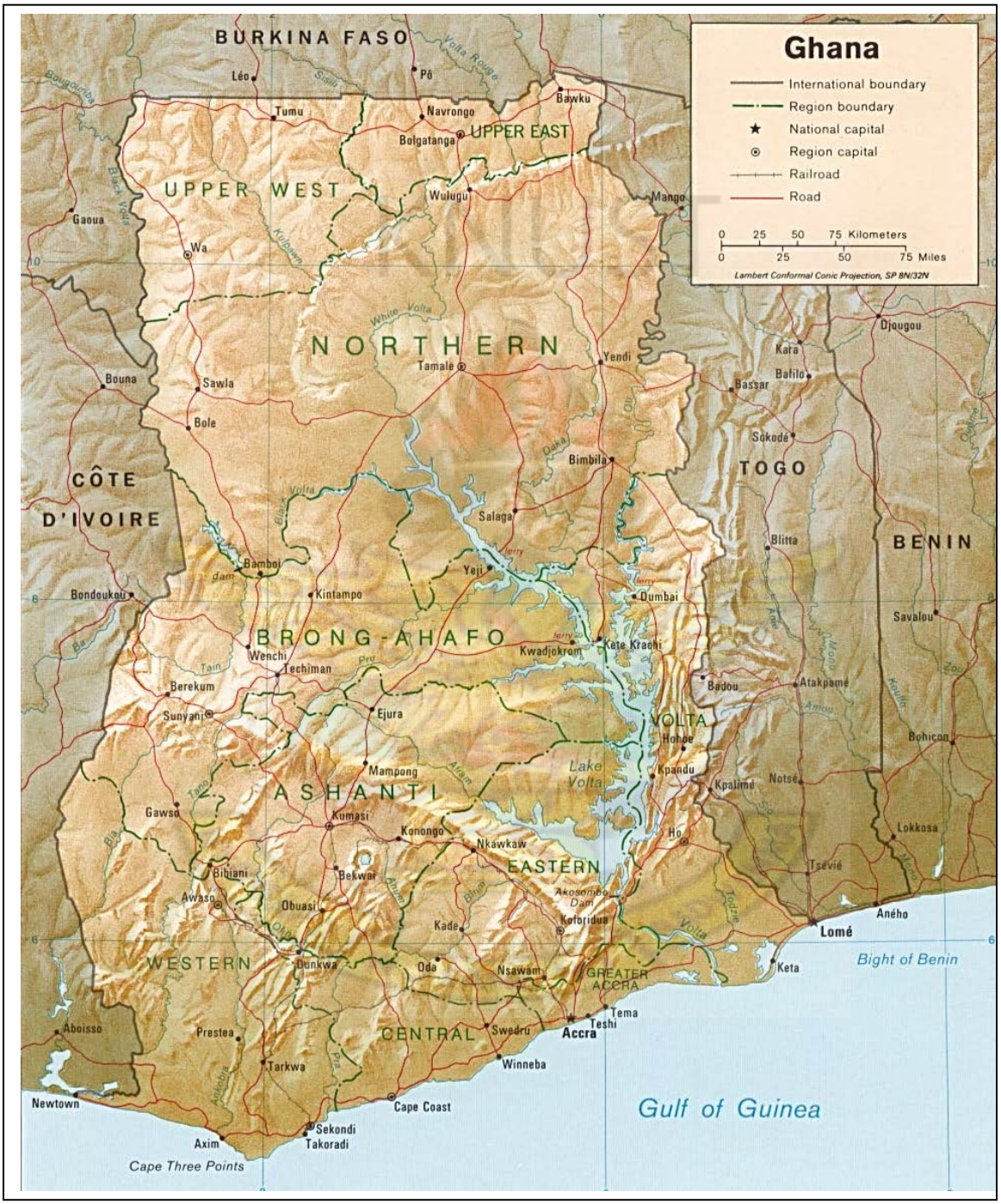
Interviews Conducted

The researcher employed an interview technique which is very vital in this kind of research. The interviewees, which included staff of EPA (Kumasi and Accra), Ministry of Science and Environment (Accra), and Friends of Rivers and Water Bodies (Accra), willingly provided important information concerning environmental problems. The interview approach enabled the researcher to ask follow-up questions to obtain more information necessary to find out the causes of the environmental problems identified.

4.2 Study Zone (Area)

Although this research critically examines the aesthetic impact of socio-cultural practices on the environment and its protection in Ghana, with a case study on the coastal savannah areas of the country, occasionally, references are made to

other regions of Ghana (Map 4.1), which experience similar kinds of environmental issues.



Map 4.1 Relief map of Ghana showing some major towns

Ghana is located on the Gulf of Guinea along the west coast of Africa. It is bordered by La Côte D'ivoire to the west, Burkina Faso to the North, Togo to the East and the Gulf of Guinea to the South. The country has a coastline, typified by sand bars and lagoons while the southern part of the country consists of lowlying plains that are covered in scrub savanna, including the Accra plains, the Volta Delta and the Akan Lowlands. To the north lies the Ashanti Highlands, the arid Volta Basin and the forest covered Akwapim-Togo Ranges. The entire country is networked with streams and rivers including the Volta River with its tributaries as well as the small Pra, Ankobra and Tano Rivers.

Structurally and geographically, Ghana exhibits many of the characteristics of sub-Saharan Africa, with its ancient rocks and extensive plateau surfaces marked by prolonged sub-aerial erosion. About half of the surface is composed of Pre-Cambrian metamorphic and igneous rocks, most of the remainder consisting of platform of Palaeozoic sediments believed to be resting on the older rocks. These sediments occupy a vast area in the north-central part of the country and form the Voltaic basin. (www.africanconservation.com/ghanaprofile) retrieved 11/11/06.

4.2.1 Coastal Savannah Area

The Coastal Savannah areas of Ghana span the south-east corner of the country, below the Akwapim-Togo ranges, which is covered by the Accra-Ho-Keta plains.

These areas are underlain by the oldest of the Pre-Cambrian series (known as the Dahomeyan) and contain extensive areas of gneiss, of which the basic varieties weather to form heavy but agriculturally useful soils. Extensive of young rocks, formed between the Tertiary and Recent ages, are found only in the broad delta of the Volta in the eastern part of the Accra plains, and in the extreme south-west corner of the country along the Axim coast; while in the intervening littoral zone, patches of Devonian sediments combine with the rocks of Pre-Cambrian peneplain to produce a coastline of sandy bays and rock promontories. The coastline is mostly a low sandy backed by plains and scrub and intersected by several rivers and streams.

The drainage is dominated by the Volta system, which occupies the Voltaic basin and includes the vast artificial lake of over 8,480 sq km formed behind the hydroelectric dam at Akosombo. Most of other rivers in Ghana, such as the Pra, Birim, Densu, Ayensu and Ankobra, flow between the southern Voltaic or Kwahu plateau and the sea.

Climatic conditions of the coastal savannah area are determined by the interaction of two principal air streaks: the hot, dry, tropical, continental air mass or harmattan from the north-east, and the moist, relatively cool, air mass or monsoon from the south-west across the Atlantic. Again, in the coastal savannah zone, where the highest average annual rainfall (of 1,270 – 2,100mm) occurs,

there are two rainy seasons (April – July and September – November). There is uniformity in temperature ranges, which average 26 to 29 degrees Celsius.

Vegetation of the coastal savannah region of Ghana is largely determined by the nature of climate and the soil conditions. The south-west portion of the country and the Akwapim-Togo ranges is covered with evergreen forest in the wetter portions and semi-decidous forest in the drier portions. The area around Accra is covered with savannah and scrub (Fig. 4.1). Truly edaphic vegetation types are found mostly in swampy or estuarine areas and on isolated hardpans in the savannah zone. Although soils and biotic factors are important, vegetation is primarily determined by rainfall. Characteristically, the coastal savannah in the southeastern plains around Accra consists of a mixture of scrub and tall grass (mostly Guinea grass), with giant anthills, often 10 to 14 feet high, providing an anchorage for thicket clumps that often include Elaeophorbia (a fleshly-leaved plant containing caustic latex) and other drought-and-fire-resistant species such as the baobab (Adansonia digitata).

Fig. 4.1 Vegetation type of the coastal savannah area in the North Eastern part of Accra
Source: Photographed by the researcher

4.3 Library Research

The libraries visited for books on the environment and its socio-cultural impact include the KNUST Main Library, College of Art Library, the British Council Libraries (in Kumasi and Accra), Ghana Library Board, Environmental Protection Agency (EPA) Library; and the Balme Library, University of Ghana. In all the libraries, great efforts were made to collect the secondary data, however, scanty from documentary sources (books, publications, catalogues, brochures, journals, magazines, charts and unpublished theses).

4.4 Data Collection

The researcher employed the Qualitative research methodology, which was characterized by field trips, direct observation on the field, interviews, taking of photographs and library researches.

Specifically, the primary sources included EPA, Ministry of Environment & Science, Friends of Rivers & Water Bodies and personal observation. The secondary data were collected from documentary sources (books, publications, catalogues, unpublished theses, brochures and the internet. The data, however, collected from the field and libraries, as well as the internet, were assembled, synthesized, critically evaluated (analysed) and conclusions drawn from them. The entire information was described and presented in descriptive form, tables and figures in the dissertation.

CHAPTER FIVE

GHANAIAN SOCIO-CULTURAL ACTIVITIES THAT NEGATIVELY AFFECT THE AESTHETICS OF THE NATURAL ENVIRONMENT OF GHANA: A CRITICAL STUDY OF ACTIVITIES DEGRADING THE ENVIRONMENT IN THE GREATER ACCRA REGION

5. 0. Overview

Humans exist within a natural environment - the sum of the physical world – that they have modified by their individual and collective actions. Those actions may, probably, include clearing forests, plowing grasslands, building dams, constructing roads and expanding our cities. Fellman, Gettis & Gettis (2005) indicate that natural forces affect the natural environment by modifying, altering or destroying the conditions of nature. However, human impact on the environment is damaging. The resultant effects leave the environment aesthetically unpleasant.

The environmental problems prevalent in Ghana, of which Accra has its share, include land degradation, coastal erosion, and pollution of water bodies, deforestation, poor waste management, chemical pollution, indoor and outdoor air pollution, desertification and flooding. Evidently, the causative agents of

these environmental concerns are mainly humans even though many others are caused by animals and natural phenomenon.

In this ever-growing population coupled with technological advancement as a result of fast economic growth in most parts of the globe, it is not uncommon to find cities in developing countries to be devoid of environmental pollution that destroys the aesthetics of the natural environment. Table 5.1 shows a vivid summary of the causes and effects of some environmental issues in Ghana.

Nature o f concern	**Causes**	**Effects**
Land degradation	Traditional farming methods Bush fires Clearing of watersheds Sand and stone winning Harvesting of firewood	Loss of top soil Loss of biodiversity Loss of medicinal plants Siltation of rivers Salination of soil
Coastal erosion	Rising sea level Sand winning on beaches Harbour construction	Erosion of coast Loss of spawning ground
Pollution of water bodies	Mining activities Indiscriminate waste disposal Farming along river banks Indiscriminate defecation	Damage to aquatic life Poor water quality Toxic water sources
Deforestation	Timber exploitation Fuel wood extraction Shifting cultivation Bushfires	Loss of biodiversity Drying of streams Soil erosion
Poor waste management	Human activities Mining activities Industrial activities Agricultural activities	Increased soil toxicity Poor water quality Visual intrusion Increase in diseases Emerging diseases
Risk from chemical use	Use of chemical in fishing Use of chemicals in hunting	Polluted water bodies Polluted air

	Agrochemical/pesticides use Industrial use of chemical Spillage from mining activities	Increase crop toxicity Death related to pesticides
Indoor air pollution	Use of charcoal and fuelwood Use of insecticides Use of mosquito coils Smoking of cigarettes	Poor air quality Increase chest problems Increase in coughs
Outdoor air pollution	Vehicular pollution Industrial pollution Dust from road construction Stench from waste	Health problems increase Poor air quality Loss of flora and fauna
Desertification	Climatic change Deforestation Poor farming practices Drying of local steams	Loss of livelihood Erosion Loss of vegetation cover
Large scale development	Mining activities Factories near rivers Building on waterways	Loss of arable land Waste generation Flooding in Cities

Table 5.1 Environmental Problems in Ghana

Source: Adapted from the SEA of GRPs, 2003 and Sustainable Development Indicators for Ghana

As stated earlier on in this introduction the table above shows that the Greater Accra Region of Ghana has had and continues to experience the devastation caused to the natural environment that consequently affects its aesthetics through various activities. Each year variants of tragedy are repeated, especially through flooding of the city centre. However, the inhabitants repeatedly embark upon their negative socio-cultural activities that affect the environment.

In this chapter, the researcher intends to discuss vividly the various human activities that contribute to environmental degradation such as destruction of water bodies, land degradation, atmospheric pollution, solid and hazardous wastes, destruction of tropical forests, wetlands, landscapes etc. In discussing these environmental concerns, the researcher shall also focus on the various negative cultural practices by the indigenous people that affect the beauty of the environment. It must also be indicated here that apart from the physical destruction caused to the beauty of the environment through human activities, there is also an immense increase in diseases with other socio-economic, political, religious and cultural implications.

5.1 Destruction of Water Bodies

Accra lies in the coastal savanna which may be suitably described as a wetland area characteristic of both dry land and bodies of water. These wetland areas typically occur in lowlying areas that receive fresh water at the edges of lakes, ponds, streams and rivers, or salt water from tides in coastal areas protected from waves. These wetlands have continual or periodic flooding characterized by non-woody emergent plants, which are adapted to living in shallow water or in moisture saturated soils (Fig. 5.1). This kind of vegetation gives the environment an appealing aesthetic look.

Fig. 5.1 Non-woody plants characteristic of coastal savannah vegetation between Ada and Tema
Source: Photographed by the researcher

Accra has a number of water bodies among which are the Odaw River, Korle, Chemu and Kpeshie lagoons which are continually being degraded or destroyed aesthetically. Unfortunately these water bodies are located near densely populated areas and industrial establishments. Food processing industries, such as breweries, have their effluents like fruit and vegetable juice pulp, dirty washings mineral acids, yeast, etc. discharged into surface streams. Accra Brewery alone discharges millions of litres of waste load into the Korle lagoon.

Also, there is a high degree of encroachment of human settlements onto flood-plain and riparian zones of Accra, which is increasing vulnerability to floods and causing loss of wetland habitat, with serious consequences for biodiversity conservation and subsistence agricultural and fishing communities.

Another critical observation is the degradation of the water sheds due to poor land use practices, for example, clearing the vegetation along the banks of these water bodies for farming purposes. This practice, however, is causing sedimentation of the river channels that bring about changes in the flow leading to hydrological and ecological processes and loss of critical habitats for important aquatic species that enhance the beauty of the environment.

Incidentally, invasive weeds such as water hyacinth, which are largely a natural cause but may also be brought indirectly by human activities, are causing major devastation to the aesthetic look of the water bodies. Aside from this, it is common to see most of these lagoons in the city centre choked with garbage. People indiscriminately dump garbage including human excreta in these lagoons. As a result these water bodies have become dead, smelly, and aesthetically unpleasant and can no longer support aquatic life (Fig. 5.2). Apart from denying the nation of some economic gains through fishing, their ecotourism potentialities are seriously hampered.

Fig. 5.2 The polluted Korle Lagoon, Accra
Source: Photographed by the researcher

Tourism potentials such as boating as a form of recreational facility not only generate revenue for the nation but induces satisfactory aesthetic feelings. Ghana State of Environment Report (2004) reveals that despite the countless number of projects to improve sanitation and hygiene education, improper disposal of municipal solid and liquid wastes remains a major problem. The most identifiable nuisance is plastic wastes which constitute about 60 percent of litter. Consequently, a greater portion of these wastes find their way into the river bodies to destroy their scenic nature. (See Fig. 5.3).

Fig. 5.3 The Korle Lagoon choked mainly with plastic wastes
Source: Photographed by the researcher

When roads are constructed, especially close to water bodies, siltation occurs coupled with the channeling of street run-offs through gutters into the water bodies. Automobiles that are not properly maintained drip their oils onto the roads that are eventually washed away into these waters destroying their quality. Aquatic organisms are destroyed as well as rendering the water bodies dead.

Unscientific agricultural practices along the banks of these water bodies also pose a serious threat to the natural look of the vegetation and the entire

ecosystem. It is, however, common to find the practice whereby the indigenous people put so much pressure on every piece of land at their beck and call in order to satisfy their economic needs. In the process certain agro-chemicals, such as pesticides, are used to protect and facilitate the growth of the food crops. These chemicals, which are later washed away into the water bodies, destroy the quality as well as the aesthetic value of these waters. More specifically, fertilizers, when washed into the streams, lagoon, rivers or ponds, tend to facilitate the development of algae that changes the colour of the water to green. Even though the quality of water is determined by its usage, it is important to protect the aesthetic value of such water bodies that can attract their tourism as well as other economic attention.

As mentioned earlier in this section oil spillage from manufacturing companies or industries, filling stations, automobiles, vehicle washing bays, etc., find their way into the water bodies. Consequently, these human activities contribute to the changing of the taste and colour of the water.

5.2 Land Degradation

The surface of the land or the entire vegetation becomes defaced and eventually rendered aesthetically unappealing due to several factors which could be natural or man-made. In general thought, land degradation through soil erosion is an

entirely natural phenomenon in areas where there are steep slopes that experience high intensity-rainfall (Fig 5.4).

Fig. 5.4 Degradation of the environment through soil erosion at Kweiman, a suburb of Accra
Source: Photographed by the researcher

Naturally, soil erosion involves the loosening of individual particles or soil aggregates from the soil mass and carried or washed away largely by water and wind (Wright, 1993). Even though, the degradation of the environment through soil erosion may be attributed to natural causes, human beings play a major part in this menace through unscientific agricultural practices, bush fires, construction activities, logging, human settlement development, etc. the end result, therefore, of most of these activities is the loss of top soil (through rain splash, sheet, gully

and wind erosion), loss of biodiversity, siltation of rivers, etc. leaving a terribly horrific appearances of the environment.

Most of the environmental concerns in relation to the degradation of land are experienced on the outskirts of the city centre of Accra, even though some of the minor problems could be encountered in a few areas. Approximately, about 98 per cent of the natural vegetative cover in the city centre has been replaced with buildings and recreational grounds. In some instances, many coastal areas are among the most heavily used parts of the land surface which may be prone to degradation. Port facilities, industrial sites and emerging towns that are established, being human activity, result in major losses of land. Human beings who are surface dwellers have had a dramatic impact upon the morphology of the land. This is clearly seen in most of their actions that rather affect the beauty of the environment in a negative manner.

The savanna coastal area of the country generally experiences unscientific methods of farming such as swidden or slash/burn, shifting cultivation and nomadic herding. The majority of the farmers in Accra, Tema, Prampram, Ada, Weija, etc. are virtually illiterates who only resort to the age-old traditional methods of producing food crops and rearing animals, thereby putting undue pressure on the same piece of land they cultivate every year. As a result, the land is exposed to all forms of harsh environmental challenges. Fellman, Gettis and

Gettis (2005) indicate that human-induced changes in land use and vegetative cover affect the radiation balance of the earth and, therefore, contribute to climatic change which is noted to have contributed to other vast change, elimination, modification and gradual destruction of the ecosystem. For instance, most of the natural grasslands of Accra have been removed and virtually replaced with the built environment by estate developers. Some portions have also been turned into farmland whilst marshes and wetlands have been drained and converted into dry lands for projects.

The coastal savanna areas of the country, where Greater Accra is located, the several mangroves and wetlands are threatened and gradually being destroyed through fuel wood gathering, clearance of salt pans, bush burning and human settlements. Rural fishing communities that are predominant along coastal savannah area heavily rely on mangrove stands as their main source of fuel wood used for cooking and fish smoking. The resultant effect is the drying of the vegetative cover characteristic of these areas. Aside from this, sand winning and defecation along the beaches, stone quarrying and excessive hunting of games (especially, grasscutter), which also involves indiscriminate bush burning to facilitate the trapping of the animals negatively affect the beauty of the ecosystem. Another serious threat to the environment is road construction, which is a major human-induced activity that depletes the environment from over-exploitation. During the process of road construction sand, pebbles or gravels are

removed from some areas of the environment rendering those areas prone to soil erosion (Fig. 5.5). Additionally, some roads are constructed and left untarred whilst others are not provided with drains at the shoulders which are eventually exposed to all forms of environmental problems. The most conspicuous of all the effects on the environment is its aesthetic value that is seriously jeopardized.

Fig. 5.5 Removal of earth through road construction in Accra
Source: Photographed by the researcher

As the population increases in an alarming rate, our towns and cities are becoming choked which calls for expansion. As a result people are settling at places where they are not supposed to build residential apartments. Unfortunately, most of these apartments have not been provided with sanitary facilities, compelling the occupants to abuse the environment. A critical study of

areas such as Chorkor, Nima, Bukom, Jamestown and Madina, to mention just a few, reveals that refuse is disposed of indiscriminately. A walk along the seashore shows how people who settle along the beaches defecate in the sand turning the entire biome into a disgusting scene (Figs. 5.6 and 5.7).

Fig. 5.6 Indiscriminate disposal of waste in Accra
Source: Photographed by the researcher

Fig. 5.7 Defecation along the beaches of Accra
Source: Photographed by the researcher

In addition, cultural and economic interests of people heavily affect the conservation of biodiversity of communities, which solely rely on the natural environment for all their needs. On the other hand, aesthetic and ethical considerations suggest that we should protect these species and the habitat necessary for the survival of humans. Therefore, the land that supports the biodiversity should be protected from degradation to ensure continuity of life of all species on earth including human beings.

5.3 Pollution of the Air

In this study air pollution may be described as any chemical, physical, or biological change as a result of substances that are introduced into the atmosphere, and for that matter the environment, which may affect living organisms and destroy the beauty of the ecosystem.

Lewis, Gaffin, Hoefnagels and Parker (2004) indicate that the air in its natural state is composed of 75% nitrogen, 21% oxygen, 0.03% carbon dioxide and other rare gases and water vapour. However, several human activities have disturbed this natural composition to the detriment of all living organisms including human beings. They assert that human beings have been polluting the air since ancient times. According to these environmental scientists, analysis of lake sediments in Sweden and peat deposits in England reveals local air pollution during the Roman Empire, from 500 B.C. to A.D. 300. At that time, lead mining

and metal smelting were as common as during the industrial revolution, a period previously credited with introducing air pollution.

Air is polluted through several sources such as Sulphur Oxides emitted mainly by power stations and industry, chlorofluorocarbons from some deodorants in aerosol cans, Nitrogen Oxides emitted by industry, etc. However, the particular sources of air pollution that destroy the aesthetic values of the environment may come from factors that are visible. Most of these sources come from what is termed as particulate materials.

Particulate materials include dust, ash, soot, lint, smoke, pollen, spores, algal cells, and mainly other suspended materials. Particulates often are the most apparent form of air pollution, since they reduce visibility and leave dirty deposits on objects in the environment.

Carbon monoxide, which is mainly emitted by vehicles, is also another factor that affects the beauty of the environment. Over-aged vehicles in the Accra metropolis produce air pollution, causing health and environment problems as well as causing visibility problems to other motorists (Fig. 5.8). Similar environmental challenges are encountered from saw mills, breweries and some manufacturing industries through the combustion of engines. The burning of fossil fuels, which also release carbon dioxide and other heat-absorbing gases

into the atmosphere, causes serious climate changes resulting in producing acid rain that causes extensive damage to building materials. Local abattoirs burn vehicle tires to process meat; *'chop-bar'* operators and fish mongers predominantly use wood fuel; and farmers burn the bush before tilling their land (Fig. 5.9). All these activities release smoke into the atmosphere which inhibit visibility.

Fig. 5.8 A Smoky vehicle impeding visibility of other motorists near Kwame Nkrumah Circle in Accra
Source: Photographed by the researcher

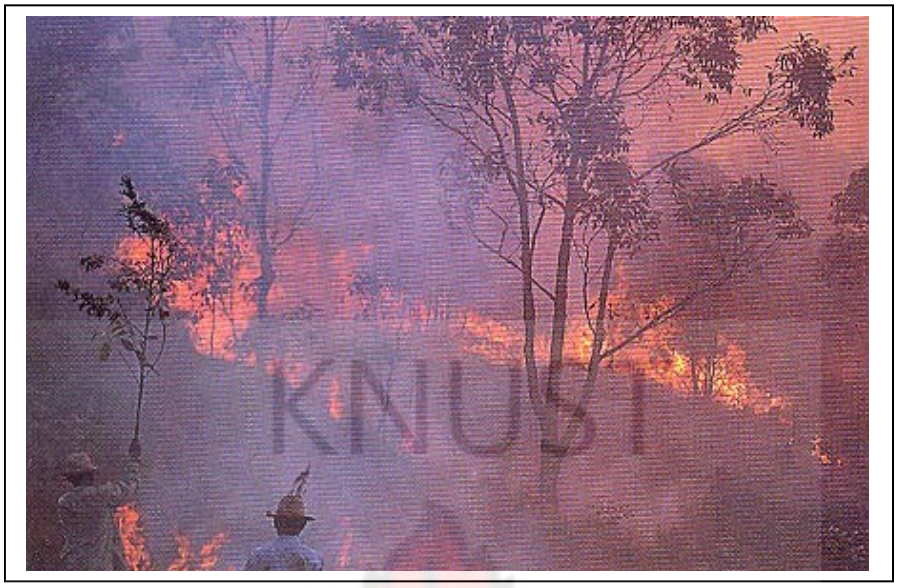


Fig. 5.9 Air pollution through bush burning by farmers
Source: Photographed by the researcher

Blasting and crashing involved in stone quarrying and sand winning meant for construction of roads and buildings release a lot of dust into the air. All dust, whether toxic or not, present a serious nuisance or eye-sore to inhabitants of those communities. Dust may block plant pores reducing light penetration and leaves and eventually dying off. This, however, has damaging effects on the vegetation.

As indicated earlier, pollution of the air may be done through visible and invisible means. Others could be odourless and tasteless. However, whichever form it takes can be very deadly to living organisms, and for that matter hampering the aesthetic value of the entire ecosystem. Odour from sewage, garbage, landfills and animals tend to put off people denying them of enjoying

the beauty of their environment. Air pollutants as a result of mountains of wasters dumped irresponsibly in people's backyards are becoming overwhelmingly problematic (Fig. 5.10).

Fig. 5.10 Air pollution through irresponsible dumping of garbage near the Centre for National Culture in Accra
Source: Photographed by the researcher

Aesthetically, the effects of air pollution on the environment are overwhelming. Entire forests and the life they support may be wiped out completely as a result of acid rain through pollution. Acid rain in a concentrated area burns plants, causing them to turn yellow and die. Dust and soot discolour beautiful flowers and trees along streets and in our homes.

Studies show that some buildings in the industrial areas of Accra and Tema, and construction sites have been blackened as a result of dust and soot. Poor visibility

also occurs, as too much smoke and smog hang in the atmosphere. Not only may this low visibility adversely affect transportation and cause accidents, but it hampers the aesthetic value of these areas.

In an attempt to look at how pollution can affect the aesthetics of the environment, it is very important to discuss noise pollution, which is also a major nuisance to man. It has been proven scientifically that among several other effects, noise pollution can affect the circulatory, digestive and nervous systems including vision (EPA, Ghana Report 2005). Since the nervous system is a major organ in the human body that controls the brain to be able to appreciate beauty, any damage caused to it affects the sense of visual judgment of the individual.

Noise pollution, which is sound that is disordered and irregular, producing an unpleasant sensation that is unwanted or that interferes with the ability to hear, comes from several socio-cultural activities of people in our societies. Firstly, unwarranted noise emanates from motor vehicles. Vehicles that mostly use diesel produce a lot of noise because of engine combustion under high compression and also due to lack of maintenance and bad driving habits. Other sources are unnecessary blowing of sirens and horns; hawkers and commercial activities, e.g. at the lorry parks, markets etc; textile mills e.g. weaving plants; saw mills; flour mills; entertainment activities e.g. footballing; social gatherings e.g. funerals, parties, churches, mosques, festivals, etc.; musical instruments e.g.

at music shops; equipments/machinery/engines e.g. generators; fitting shops, corn mills, etc; quarrying; among others.

5.4 Solid and Hazardous Wastes

Wastes have become everyone's problem because in nearly everything man does waste is generated everyday and everywhere. As a result, solid and hazardous wastes are overwhelmingly taking over our surroundings posing serious aesthetic and health problems to every nation, including Ghana.

Human populations grew at alarming rates in the last century. More than six billion people now occupy the earth, and about 8.5 million are being added each year. Most of these growths are affecting poorer countries where present populations already put strain and stress on resources and services (Cunningham and Cunningham, 2002). This speedy growth in population suggests that tons of wastes are generated daily. According to the Environmental Protection Agency (EPA), the United States produce 11 billion tons of solid waste each year. Back home in Ghana, evidence of population pressure on land is, however, widespread. Presently, Ghana has a mean population density of 51 persons per square kilometer (Ghana Environmental Action Plan, 1991). Comparing these figures recorded over 15 years ago to the rate of growth reveals the pressure on land and its attendant problems in relation to solid and hazardous wastes may be daunting.

Since time immemorial, man has been noted to generate tons of wastes. Garbage is produced and discarded by all societies everywhere. Prehistoric dwelling sites indicate that refuse piles containing kitchen wastes, broken tools, and other debris of human settlement were dumped in their surroundings (Fellman, Gettis and Gettis, 2005). In the Greater Accra, and for that matter any other growing city or town in Ghana, the wastes of major concern are garbage, excreta, dry season wastes and storm water debris. Most of these wastes are what is classified as solid waste, toxic or hazardous waste.

Solid wastes are the most visible forms of garbage that pollute the environment. In our communities, people dispose of billions of tons of solid garbage everyday. Industrial wastes form the greater portion of discarded materials. Solid waste from homes, offices, and stores called municipal solid waste include paper, plastic, bottle and cans, food scraps and textile trimmings. Scrap metal and leftover agricultural products are also a menace (Fig. 5.11). The handling of solid waste is a problem because most disposal methods damage the environment. Open dumps ruin the natural beauty of the land and provide a breeding ground for rats and other disease carrying animal. Uncontrolled burning of solid waste creates smoke and other air pollution. Aside from this, solid wastes which are irresponsibly dumped into water bodies, open drains/gutters and plastics left on the streets are easily carried away by wind and hung on telephone as well as

electric wires along the streets in the city centre (Fig. 5.12). This renders the environment aesthetically unpleasant.

Fig. 5.11 Municipal solid waste causing environmental pollution at Malamata Market in Accra
Source: Photographed by the researcher

Fig. 5.12 Plastic waste choking drains and gutters near Department of National Lotteries in Central Accra
Source: Photographed by the researcher

On the other hand, toxic or hazardous waste is discarded material that may pose a substantial threat to human health or the environment when improperly stored or disposed of. A waste is hazardous if it corrodes other materials; explodes; ignites easily; reacts strongly with water; or is poisonous. This form of waste is chiefly generated by industries, hospitals and laboratories. The improper handling of hazardous wastes can cause immediate injury to living organisms and the entire environment. The most dangerous aspect of most hazardous waste is that they are invisible but the effects could be very damaging and very visible. The end result, therefore, is the destruction of the natural as well as the built environment.

5.5 Destruction of Waterways, Wetlands, Estuaries and Landscapes

Evidence has shown that destruction of waterways, wetlands and other biologically rich landscapes is causing an alarming loss of species and a reduction in biological variety, thereby affecting the natural aesthetic value of the environment. Many rare and endangered species are gradually threatened directly or indirectly by human activities. As discussed earlier in some of the environmental concerns, the deadly destruction caused to estuaries, wetlands and landscapes in the coastal savannah area of Ghana emanates from construction activities such as roads, bridges, buildings, etc.; unscientific methods of farming, oil spillage; improper disposal of solid and hazardous

wastes. The resultant effect of these activities to the environment is the constraint on the aesthetic and ethical considerations of the ecosystem.

Fig. 5.13 Unauthorized structures on waterways at Alajo in Accra
Source: Photographed by the researcher

Fig. 5.14 Flooding as a result of building on waterways at Alajo in Accra
Source: Photographed by the researcher

Additionally, humans have drained and filled estuaries to build houses and dumped garbage and other pollutants in their waters. Pollutants such as animal dropping, human sewage and medical waste, motor oil, fertilizer from large farms, industrial waste, oil spills and other forms of garbage end up in estuaries, denying them of their natural beauty. These identifiable causes of destruction to waterways, estuaries, wetlands, etc, such as urbanization, housing, tourism, dredging and agriculture are not in themselves bad to society but their emergence, however, give rise to several other environmental challenges that infringe on the aesthetic value of the eco-system.

5.6 Human Settlement Development

Historically, humans have not been very numerous compared to other species like animals and birds. According to Cunningham and Cunningham (2002), studies of hunting and gathering societies suggest that the total world population was probably only a few million people before the invention of agriculture and the domestication of animals around 10,000 years ago. The agricultural revolution produced a larger and more secure food supply and allowed the human population to grow, reaching perhaps fifty million people by 5,000 B.C. For thousands of years, the number of humans increased very slowly. Archaeological evidence and historical descriptions suggest that only three hundred million people were living at the time of Christ.

However, human populations began to increase rapidly after about A.D. 1600 due to factors such as increased sailing and navigating skills that stimulated commerce, communication among nations, agricultural development, better source of power, and better health care and hygiene. Lewis, Gaffin, Hoefnagels and Parker (2004) are also supportive of the above assertion that human population growth surged following acquisition of tool use, the rise of agriculture, and the industrial revolution.

This rapid growth in population suggests that there would be so many environmental challenges as a result of human settlement development. This expansion on population the world over since 5000 B.C. till A.D. 2020 (estimate) shows the magnitude of the pressure that would be on the ecosystem (Table 5.2).

Table 5.2 World Population Growth and Doubling Times

DATE	POPULATION	DOUBLING TIME
5000 B.C	50 million	?
800 B.C	100 million	4200 years
200 B.C	200 million	600 years
A.D. 1200	400 million	1400 years
A.D. 1700	800 million	500 years
A.D. 1900	1600 million	200 years

A.D. 1965	3200 million	65 years
A.D. 1990	5300 million	38 years
A.D. 2000 (estimate)	8230 million	55 years

Source: Data from Population Reference Bureau, Inc. Washington D.C

In Ghana, however, the population has multiplied in size from about one million at independence in 1957 to about 21 million in 2006. The death rate has been declining over the years because of improvement in public health, sanitation, medical facilities, education and modernization (Ghana State of Environment Report, 2004). Ghana's population is predominantly rural and the urban population is skewed towards the south with Accra, the capital city, having 17 percent of the total population.

This growth, however, indicates that there is bound to be pressure on the environment i.e. the natural resource base with its attendant problems. With regards to the aesthetics of the environment, urban areas produce a variety of waste such as solid waste, industrial waste and liquid waste from households, industries and demolition sites. Aside from this, slums and squatter settlement are an eye-sore (Fig. 5.15).

Fig. 5.15 Slums and squatter settlement areas in Accra
Source: Photographed by the researcher

The problem of waste, which tends to be a daily nuisance in our environment, is a direct result of a growing urban population, the changing patterns of production and consumption, the inherently more urbanized life-style and industrialization. High growth in population means increase in demand for agricultural and grazing land, fuel-wood and charcoal and encroachment of forest reserves, increase in demand for sand, gravel and stones to feed the building and construction industry. All these activities contribute to degrading the natural beauty of the environment.

5.7 Recreational Systems

Societies everywhere have advanced technologically and several means have been devised by people to recreate, entertain and refresh themselves after battling with the hustle and bustle of their daily endeavours. As a result, indigenous people resort to the destruction of specific areas of the ecosystem that are considered appropriate for such projects. Recreational systems such as sports stadium, children's park, golf courts and theatre grounds among others are some projects which claim large portions of the natural environment. Even though the construction of these sites does not necessarily affect the beauty of the environment, the natural look can be jeopardized by altering the natural biodiversity and replacing it with artificial objects. On the other hand, the patronage of these recreational systems if not properly handled leaves the environment with heavy chunk of wastes, which then become a nuisance, smelly and an eye-sore. Furthermore, to construct a recreational system such as a stadium, demands the clearing of the top soil, felling of trees or filling of a vast land or watershed to be able to achieve this aim. Sand, stone or gravel have to be moved from one location to another, thereby rendering some parts of the environment degraded.

5.8 Bad Socio-Cultural Practices

Socio-cultural practices simply refer to activities of indigenous people that have become part of them and which they have accepted in principle to be their way

of life that inadvertently govern the way they think and act. Most of the factors discussed in the preceding sections, in one way or the other, emanate from the social, industrial or economic activities of the people. The socio-cultural practices, herein, referred, deal with attitudinal problems which are unfortunately part and parcel of their way of life.

Palm-wine tapping, collective hunting of grass-cutters and other small animals are some of the practices of the indigenous people that cause havoc to the natural state of the environment. During palm-wine tapping, fire used in processing the juice from the sap is most of the time left unquenched. This careless attitude, sometimes, results in bush fires. Also, the indigenous people deliberately set fire to a large portion of the bush to enable them trap grass cutters in their collective hunting sprees.

Furthermore, certain traditional methods of farming have become the accepted cultural practices, which no amount of modernization and education have been able to correct. For instance, fragmentation, which refers to the cultivation of one piece of land year after year over a long period of time with the belief that the piece of land has been handed down to them by their ancestors. If they should abandon this piece of land, it would incur the displeasure of the ancestors. The ancestors would continue to guide and protect, and even replenish the land, if they continue to cultivate it all the days of their life.

Another attitudinal problem of indigenous people in the Ghanaian society is the 'throwaway attitude' that has been woven into the cultural fabric of the people. Unfortunately, people throw away rubbish indiscriminately from moving vehicles, on streets, in homes, social grounds, market areas, schools etc. not being mindful of the consequences. In our city centers, it is common to find people throwing rubbish outside rubbish containers that have been provided at strategic points by municipal authorities. Gutters and drains get choked as a result of this bad cultural practice causing flooding each time it rains, posing a serious threat to the aesthetic value of both the built and the natural environment.

Summary

Environmental challenges that affect the aesthetic aspects of both natural and built environments are mainly due to human-induced activities such as destruction of water bodies through pollution in the form of garbage disposal, unscientific methods of farming, construction activities, etc.; land degradation; air pollution and noise pollution; solid and hazardous wastes disposal; destruction of waterways, wetlands, estuaries and landscapes; human settlement development; recreational systems; and other bad socio-cultural practices.

CHAPTER SIX

GHANAIAN ACTIVITIES THAT PROMOTE AND PROTECT AESTHETIC ASPECTS OF THE ENVIRONMENT

6.0 Overview

Environmental challenges that have received critical scrutiny over the past decades involve both natural and the built environment. Aesthetic activities by Ghanaians play a major role in environmental protection. It is common knowledge that under the pressures of human activity, discussed in the previous chapter, as a result of explosive population growth, the planet's natural communities are shriveling rapidly. They are shrinking on all sides because of expansion of agriculture, urbanization, deforestation, contaminants into water tables, road building, etc., and the aesthetics of the environment has been gravely affected. Nevertheless, collaborative and pragmatic approaches through some socio-cultural practices and other human activities largely help to promote the aesthetics of the environment and protect it from degradation as well as enhancing its beauty. This chapter, however, shall discuss some of these activities such as socio-cultural practices, architecture, landscaping, forest reserves, recreation centres, visual/graphic communication activities, incinerators among others.

6.1. Positive Cultural Practices: Indigenous Sacred Groves

The sense of community and humane living exhibited through some socio-cultural practices are highly cherished values of the life of the traditional African in general. For the traditional African, the community, and for that matter, the environment is basically sacred rather than secular, and surrounded by several religious forms, symbols and beliefs.

In Africa as a whole, and Ghana in particular, it is believed that the indigenous folks hold in high esteem the protection of the environment, as it is their belief that forests, rivers, mountains, etc., serve as abodes of several spiritual forces that are harnessed for their safety and continuity of life. Among the Asantes, for example, it is believed that trees and plants are 'homes' to certain spirits. These plants or trees are, therefore, required to be propitiated on special occasions. Rattray (1959) point out that:

> …trees and plants in general have their own particular souls which survive after 'death' – the Ashanti think that all these undoubtedly have such a soul –…which is being propitiated, or whether a particular tree or plant has become the shrine, or medium, or dwelling place of some external and totally different spiritual agency which has entered into the plant or tree and become the object of veneration and propitiation…the soul of a plant or tree propitiated is that of the plant or tree itself, and not some exotic spirit which has merely lodged temporarily or even permanently.

The above observation indicates that the Asante is psychologically, fully equipped and motivated to promote the delicate balance and equilibrium

believed to exist in the universe (i.e., *the environment*) through ensuring harmony in his relationship with the invisible world and among members of the community as well as trees, mountains, rivers, etc. in the environment. The socio-cultural dimension is clearly important as the indigenous people rely on the supernatural power and divine authority of ancestors and other spiritual patrons, believed to be existing in their environment, to ensure their existence. One of the most important practices by the indigenous people to ensure the protection of the environment is through sacred natural sites.

Sacred natural sites are natural areas of spiritual significance to peoples and communities. They include natural areas recognized as sacred by indigenous and traditional peoples, as well as natural areas recognized by institutionalized religions or faiths as places for worship and remembrance.

To the indigenous groups, these sacred natural sites are meant to protect the spiritual connections between people and their environment. However, this practice indirectly is of great importance for the conservation of biodiversity. As a result of spiritual beliefs, many communities throughout the world have given a special status to natural sites such as mountains, rivers, lakes, caves, forest groves, coastal waters and entire islands. For instance, in the Maori culture of the people of New Zealand sacred seas are set aside, which reflect the presence and the power of gods that guide all elements of the natural world, especially in

relation to the management of the waters and fisheries. The Maori have a great sense of conservation and this guides their fishing practices as well as measures intended to maintain the habitat, preserve fish stock and regulate fisheries use (Nga Kai O Te Moana, 1993). Also, the Dai *(Tai)*, an indigenous ethnic group in South-West China, have sacred mountains, specifically the 'Dragon Hills' of Yunnan Province, with forested hills which are believed to be the abode of gods. Therefore, all the plants and animals that inhabit the Holy Hills are companions of the gods or sacred living things in the god's garden. It is the belief of the Dai that spirits of great and revered chieftains go to the Holy Hills to live, following their departure from the world of the living. As a result, they instituted norms, ethical rules and spiritual beliefs to protect those biodiversities and habitats. This concerted effort has protected hundreds of well preserved seasonal rain forest areas, large number of endemic or relic species of the local flora, including about 100 species of medicinal plants and more than 150 economically useful plants (Zoundjihekpon, J. & Dossou-Glehouenou, B., 1999).

In other instances, sacred forests such as the *Naimina Enkiyio* indigenous forest of the Maasai is regarded as the centre of the lives of the people. This sacred forest serves as the source of survival, spirit, past and future of the Maasai. Therefore, many ceremonies essential to their way of life are performed within the edges of the forest. For example, Maasai women are blessed and cleansed to enhance their fecundity under special sacred trees of the forest. As a result of this, the forest is

revered and well protected by the indigenous people. In the same vein, sacred groves of the Western Ghats of India as well as groves in Ghana, severally mentioned in this dissertation, are believed to be the abodes for some deities. Therefore, taboos and particular governing rules are instituted to prevent people from destroying these sacred sites.

Many of these have been set aside as sacred places. The reasons for setting them aside could be buttressed with the fact that they may serve as abodes of deities and ancestral spirits, as sources of healing water and plants, places of contact with reality; and sites of revelation and transformation. They are sometimes temple sites, the burial grounds of ancestors, places of pilgrimage, or sites associated with special events. Particular plant and animal species may also be considered as sacred by some communities. While many of the sacred natural sites have historical significance, they are not static in time or space; new sites can be created in response to changing circumstances and environment.

In Ghana, small patches of forest are set aside, normally close to settlements, as sacred lands that could not be touched. These sacred groves are controlled by traditional authority (usually the traditional priest in charge of the god of the grove, the chief of the village, and heads of relevant clans). As Ntiamoa-Baidu (1992) indicated, the responsibility for the protection of the grove is vested in the entire community, but a select group of people or family normally has the duty

to enforce the rules. The conservation strategy, which is one way of preservation, is enshrined in taboos and numerous cultural and religious rites and is maintained through reverence for the gods and ancestral spirits. Among the Akans, such areas, which are mostly sited in rural areas, are known as ***abosompɔ/asɔreyɛso*** (shrine), ***mpanyinpɔ*** (ancestral forests), and ***nsamanpɔ*** (burial grounds).

Many of the sacred sites comprise an object (such as a tree, stone, or rock) considered to be an abode of a god and its immediate surroundings. A typical example is the Malshegu sacred grove near Tamale in northern Ghana (Dorm-Adzobu *et al*, 1991; Ntiamoa-Badu *et al*, 1992). Others are rivers, streams and patches of forests. Taboos associated with such sites include prohibition of cultivation of forest lands on the river banks, prohibition of use of fisheries resources within the river and restrictions on access to the river on certain days. These taboos prevent defilement of the rivers. Other protected areas by the indigenous people are also guided by taboos.

Aside from the above indications, patches of forests are protected because they are considered to support some sacred totem or tabooed species that are believed to have special spiritual or cultural values and associations. Many clans in Ghana have, at least, a wild animal or plant species as their symbols. For example, the leopard (*panthera pardus*) is the symbol of the Bretuo clan of the Akan people

(Azanwule clan in Nzema); that of the ***Oyoko (Alonwoba)*** clan is the raffia palm (*Raffia hooker*). Traditionally, such species are strictly protected. In some cases, even touching the species is forbidden. The Buabeng-Fiema Monkey Sanctuary is an example of a grove protected because the forest supports black and white *Colobus polykomos* and *Cercopithecus mona* monkeys, considered sacred by the people of Buabeng and Fiema villages (Akowuah *et al*, 1975, Ntimoa-Badu, 1987; Fargey, 1991 Ntiamoa-Baidu *et al*; 1992).

Additionally, Lieberman (1979), Dorm-Adzobu (1990) and Ntiamoa Baidu *et al* (1992) indicate that some sacred forests originate from historical events. For example, the Pinkwae grove (near Katamanso), which is a 1.2 square kilometer forest was the battleground of a war between the people of Katamanso and the Ashantis in 1826. This forest is believed to be the abode of the spirits of ancestors who died in the war and of the *Afiye* god whose powers enabled the Katamanso people to defeat the Ashantis. In the same vein, the Asantemanso grove, near Esumegya, is also believed to contain the cave from which the seven clans of the Ashanti tribe originated (Ntiamoa-Baidu *et al*., 1992).

Deeply imbedded in our Ghanaian traditions is the belief that human beings have a role to play in the rhythm and preservation of nature. This belief is often expressed in taboos and other restrictions with respect to the use of natural resources in the environment. The restrictions which are placed on the use of

nature express an ecological sense which is indispensable to the survival of humans in the world. Among the people of Moree in the Central Region of Ghana, for instance, there is the practice of closing and opening of the ***Emfa*** Lagoon, which is an expression of this traditional attitude to nature.

The ***Emfa*** Lagoon is believed by the people of Moree, to be the abode of ***Emfa***, the principal divinity of Moree. The inhabitants of Moree eat the fish from the lagoon, and water from the lagoon is also used for various ritual purposes by both inhabitants and outsiders, some of whom often travel long distances to procure the water. Each year, the lagoon is ritually closed. Special leaves are bound to the tip of a pole which is then tied to a tree near the lagoon, to signify a ban on fishing activities. The ban allows the spirit of the lagoon a period of rest and ensures harmony between the people and the spirit in the lagoon. To ensure continuity of life as well as replenishing the stock, the ban allows enough time for fish to breed so that the lagoon could swarm with abundant fish when the ban is lifted.

The spiritual connections between indigenous people and the environment are more than a reflection of traditional views on nature – they are also integral parts of identity. In virtually every society, nature provides powerful symbols used by the people to create strong links between the social and the natural world. To many indigenous groups in Ghana, for example, the sacred grove is more than a

mini-nature reserve, which is the keystone in a way of life. It stands for the integration of the human community in nature. The sacred natural sites are often local points for social and cultural celebrations and religious rituals, establishing social cohesion and solidarity within communities. In many indigenous traditional communities it is difficult to separate out cultural identity, kin and social relationships, livelihoods, and traditional environmental knowledge from the ritualistic use of the land and protection of biodiversity – they are all strongly interdependent.

It is important to indicate that access to sacred natural sites is often a taboo and restricted to a small circle of people, such as priests. In many indigenous communities, customs relating to the management of sacred groves are set down by priests with knowledge of forest deities and their influence on life. Ancient folklore and stories are told which include details on the supernatural penalties that result if the groves are desecrated (Bharucha, 1999). In some cases sacred sites provide a range of procedures in rituals by traditional priests during or in healing. In other cases, the harvesting of plants or the hunting of animals is not permitted in consecrated areas. As a consequence of their taboo status and additional restrictions, many sacred places have served as important reservoirs of biological diversity, preserving unique and/or rare plants and animal species. Sacred natural sites such as forest groves, mountains and rivers, are often visible in the landscape as vegetation-rich ecosystem contrasting dramatically from

adjoining, non-sacred, degraded environments. In many parts of Ghana, sacred groves are the only remaining patches of greenery over the stretches of otherwise devastating countryside.

As indicated earlier, many sacred sites are of great value for ecological research and nature protection. In other words, they are valuable genetic reservoirs, which can be used in assessing the potential natural vegetation of degraded ecosystems. In Ghana, some of these sacred sites in the savanna areas have been used for reviving degraded ecosystems. Afforestation schemes that include the establishment of fodder banks for livestock and the planting of cash crops on the periphery of sacred groves have also helped to enlarge the sacred groves through an additional buffer zone around the ritual site (Schaaf, 1999). In other areas, sacred sites play a role in safeguarding critical sites in watersheds, or helping to preserve the ecological integrity of entire landscapes. They are often places with limited access and restricted use that have preserved many rare species of flora and fauna. Although they have a high degree of acceptance and respect from local communities, their contribution to conservation enhances the aesthetic value of the environment, thereby attracting tourists to those sites.

Lastly, apart from enhancing its aesthetic quality, sacred natural sites are important for the vitality and survival of indigenous and traditional people's cultures. There is a fundamental link between the rights of people to control

natural sites – which symbolize their cultural and spiritual identity, and their continuing protection.

Apart from the setting aside of sacred sites in most Ghanaian communities, it is a common knowledge that some indigenous communities among ***Ewes***, ***Akans***, and ***Gas*** of Ghana, restrict or prohibit the inhabitants from visiting their farms or to go fishing on certain days set aside, believed to be the days of the gods who control their destiny and protect them from calamities. Notable among some of the traditional sacred groves set aside in Ghana include the Guako sacred grove at Pokuase, near Accra; Buoyem sacred grove in Brong Ahafo Region; Buabeng-Fiema sacred groves in Brong Ahafo Region; and Malshegu sacred grove in Tamale in the Northern Region.

To reiterate, sacred groves, which save most of our biodiversity, provide recreation for many people who travel to nature reserves such as Kakum National park, Aburi botanical gardens, Paga crocodile pond and Agumatsa waterfalls for sightseeing. The aesthetic appeal of these areas provides a therapeutic effect, which, in effect, brings the people closer to nature, to marvel about creation and receive excitement. In Ghana, different ethnic groups and clans have certain animals as totems that unite them. Aside from this, some festivals are also associated with particular animals, without which the celebration of the festival is incomplete. For instance, the people of Winneba in

the Central Region celebrate the ***Aboakyir*** festival in which groups compete to capture a live bushbuck. Conservation of these forests or natural sites protects some of these animal species necessary for the traditional celebrations. As already stated, the aesthetic qualities of the environment are greatly enhanced.

6.2. Contemporary Protected Natural Areas

Protected natural areas introduced apart from the indigenous sacred groves include national parks, game production reserves, wildlife sanctuaries, and strict nature reserves. These nature preserves were introduced through the awareness of the growing scarcity of wildlife and wild places (Cunningham and Cunningham, 2002). Ntiamoa-Badu (1995) indicates that in the early 1900s, concern over rapid population growth in Ghana and other African countries led colonial administrators to introduce protected areas (nature preserves) based on western knowledge and values. Control of these areas is vested in central governments. As a result, a policy of externally enforced exclusion is pursued and no serious attempts are made to involve the local communities in the management of these areas.

Conversely, in many cultures, throughout the world, wilderness and wild lands are regarded as useless wastelands that should be put to some productive use if possible. However, these areas have been turned into or designated as parks, wild life refuges, and nature reserves in our societies. Unlike sacred groves that

have survived till date purely because of the strong traditional beliefs upheld by the local people and the spiritual, religious and cultural attachments to the groves, these introduced protected areas are often indiscriminately encroached upon. In the former, the major virtue of this strong culture-based practice is that it encourages community participation in natural resources conservation and sustains position awareness of nature and the linkages between man and nature.

6.2.1. Nature Reserves and National Parks

One important practice which ensures the beauty of the environment is the reservation of some portions of the ecosystem (especially the vegetation). They may be seen as nature reserves, a term which refers to a variety of areas in which rare animals, plants, or whole environments are protected and studied. National parks and nature reserves are, however, elected by governments or private organizations for special protection against damage or degradation. They are chosen for their outstanding natural beauty, as areas of scientific interest, or as forming part of a country's cultural heritage, and often also to provide facilities for public recreation. Forest reserves, as part of nature reserves, are areas that are legally constituted for permanent forestry production. Ntiamoa-Badu (1995) reveals that in Ghana, there are over 250 forest reserves that are covering approximately 23, 729 square kilometers. Although the primary purpose of most forests reserves in Ghana presently appears to be timber production, it now

promotes the aesthetic value of the ecosystem, in addition to its maintenance of environmental and ecological stability as prevalent at Abetifi (Figs. 6.1 & 6.2).

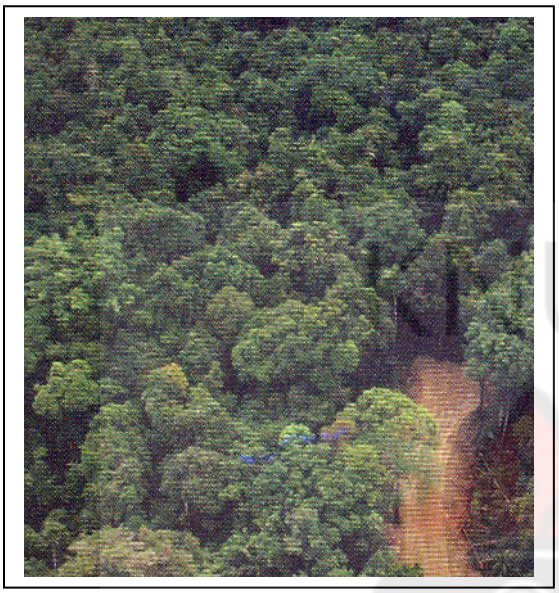


Fig. 6.1 Aerial view of a virgin forest showing its scenic nature near Abetifi

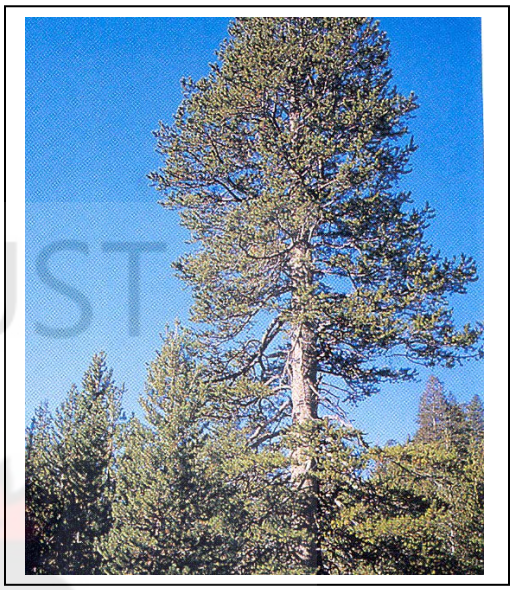


Fig. 6.2 A tree in a forest which could be studied scientifically as well as appreciated for its aesthetic value at Abetifi

Source: Photographed by the researcher

Originally, reserves were established along the forest/savanna borders to prevent the advancement of savanna vegetation into the forest zone; hilly areas were reserved to protect the headwaters of major rivers and prevent erosion, and reserves were scattered throughout the forest zone to maintain hydrological and climatic conditions. Additionally, forests produce valuable materials, such as lumber, paper pulp, and domestic livestock, which are important in human culture. They also play vital roles in purifying the air and a host of other ecological services. Essentially, these terrestrial biomes have scenic, cultural, and

historic values that deserve to be protected. For example, the Kakum National park Aburi botanical gardens, Paga crocodile pond, Agamatsa waterfalls, etc. satisfy varied needs of human beings.

On the other hand, wildlife conservation areas are set aside by policy to conserve assemblages of fauna and flora. In Ghana, the department of wildlife, which was established in 1965, is responsible for managing Ghana's wildlife resources both within and outside conservation areas. These include national parks that serve as recreational centers for tourists.

Historically, parks were set aside for religious purposes and hunting preserves or pleasuring grounds for royalty. These areas were only open to elite members of society (Cunningham and Cunningham, 2002). However, they helped to preserve biodiversity and natural landscapes, which inadvertently, brought nature and beauty into the city in the form of parks and public gardens. On the other hand, a park may be described as an area of open space provided for recreational use, usually owned and maintained by a local government. These parks commonly resemble savannas or open woodlands, the types of landscape that humans find most relaxing. Grass is usually aesthetically and typically kept short. Trees are chosen for their beauty and to provide shade (Fig. 6.3).

Fig. 6.3 Landscaping revealing the aesthetic appeal
of trees and grass at Obuasi
Source: Photographed by the researcher

Parks serve a variety of purposes such as educating people about the past and providing sanctuaries where nature is allowed to evolve in its own way. They are havens not only for wild plants but also for human spirits, for example, the Pinkwae grove (near Katamanso), which is believed to be the abode of the spirits of ancestors who died in the war between the people of Katamanso and the Ashantis in 1826.

Aside forest reserves and wildlife conservation areas, parks are supposed to preserve areas of great natural beauty such as rocks, monuments, historic artistic

edifices and biodiversity or ecological complexity. It is essential to indicate that these protected areas largely help:

i) to maintain essential ecological processes and life support systems on which human survival and development depend;

ii) to preserve genetic diversity essential for breeding programmes to improve cultivated plants and domesticated animals; and

iii) to ensure that any utilization of wild species and ecosystems is systematic.

However, indirectly, the aesthetic values of the environment are greatly enhanced for the enjoyment of humans who mostly benefit from the ecosystem.

In Ghana, a relentless effort has been made to set aside some protected areas, in a bid to conserve biodiversity to achieve a significant reduction of the repaid loss of biodiversity. The protected areas consist of resource reserves, wildlife sanctuaries, national parks, ramsers sites, zoos, botanical gardens and many community-based sanctuaries. Table 6.1 shows the wildlife protected areas as a percentage of total area of Ghana.

Table 6.1 Wildlife protected areas and area occupied in Ghana

Name of Park/Reserve/Sanctuary	Total area in km²	Percentage of area as total area of Ghana
Mole National Park	4,840	2.03
Kakum National Park and Assin Attandanso Resource Reserve	360	0.15
Digya National Park	3,478	1.46
Bui National Park	1,821	0.76
Bia National Park and Resource Reserve	306	0.13
Nini Suhien National Park and Ankasa Resource Reserve	503	0.21
Kyabobo National Park	360	0.15
Owabi Wildlife Sanctuary	13	0.005
Agumatsa Wildlife Sanctuary	3	0.001
Buabeng-Fiema Monkey Sanctuary	4.4	0.018
Tafi Atome Monkey Sanctuary	328.56	0.14
Shai Hills Resource Reserve	49	0.021
Kalakpa Resource Reserve	320	0.13
Gbele Resource Reserve	565	0.24
Kogyae Strict Nature Reserve	386	0.16
Bomfobiri Wildlife Sanctuary	53	0.022
Total	**13389.96**	**5.627**

Source: Ghana State of Environment Report, 2004 (EPA)

The central philosophical paradigm that renders these protected areas aesthetically appreciable in each of these features is marked contrast with those of the objects of appreciation of environmental aesthetics. Since these objects are everyday environments, appreciators are immersed within the objects of their appreciation, or at the very least not separated from them by preordained distances or at particular positions. Moreover, on specific sense are required, as

appreciators occupy or move around and among such objects of appreciation, they see, hear, feel, smell, and perhaps even taste. These aspects of the experience are intensified by the open, unlimited and promiscuous nature of the objects themselves. They change as appreciators move and change of their own accord. They are constantly in motion, and with the passage of time changes continue without limit. They also extend through space again without limit. There are no frames for environments – either in time or in space.

6.2.2 Zoos

Zoos are very important nature reserves that contribute to the promotion of the aesthetics considerations of the environment. A zoological garden, or zoo for short, is described as a place where wild animals are encaged in an artificial environment and exhibited to the public. Though in captivity, the environments of the animals are built in a manner to simulate their native habitats. As a result, it is considered human-induced environment.

Since time immemorial, animals have been kept by people for work, warfare, food and entertainment. Emperors and kings maintained collections of wild animals in their palaces as a status symbol and for their amusement. It was in 1959 that the first animal collection was built into a zoo in Schonbrum near Vienna (www.cza.nic.in/history). As already pointed out, zoos are establishments where captive animals are kept for exhibition to the public and

may serve as places for relaxation, entertainment and a place to have fun. Although, the initial purpose of zoos was entertainment, over the decades, zoos have transformed into centres for wildlife conservation and environmental education.

Aside from the above role of zoos, the most important is that zoos evoke strong aesthetic and emotional reactions. People appreciate the opportunity to see animals they would never otherwise get the chance to see. This may be the closest to wildlife that many urban people may get, and so zoos provide a unique opportunity to create an interest and love for animals. Apart from saving individual animals, zoos have a role to play in species conservation too. The aesthetic experiences gained while interacting with live animals – ***seeing, hearing*** *or* ***touching*** them cannot be over emphasized. Live animals create curiosity and interest.

6.3 Landscaping

Landscaping plays a major role, as a human activity, in protecting the environment as well as invigorating its aesthetic qualities. A landscape therefore may be described as the visible features of an area of land, including physical elements such as landforms, living elements of flora and fauna, abstract elements such as lighting and weather conditions, and human elements. Also, landscape may signify the objects around one in a building. Vroom (1980) indicates that

landscaping usually concerns itself with the protection and conservation of natural processes in so far as these are dependent upon the layout of the land. This implies that the gradually introduced change in emphasis from *'preservation'* to *'conservation'* indicates an evolution in thinking about the overall management of nature and landscape. Aside from this, it concerns itself with the layout of the land for recreational use, which is in relation with natural phenomena and the enjoyment of these by urban dwellers.

Aesthetically, landscape requires dealing with visual factors in terms of order and variety while aiming for an optimal legibility of the landscape. This means that land-use types are arranged in a logical and, at the same time, a variable way and can be recognised in their visual manifestation. It also requires simulation techniques to present images of the conceived layout of the land and their results become pleasant to the eye and stimulate emotions (Figs. 6.4 & 6.5).

In effect, the elements landscaping employs are both living and non-living forms. The living forms may include trees and shrubs, flowering plants and vegetables, lawn and ground cover. The non-living elements are the walkway, the patio, the wall, the fence, the bed, water works, the gazebo, and the lighting, all formed out of natural and man-made materials and containing the living forms.

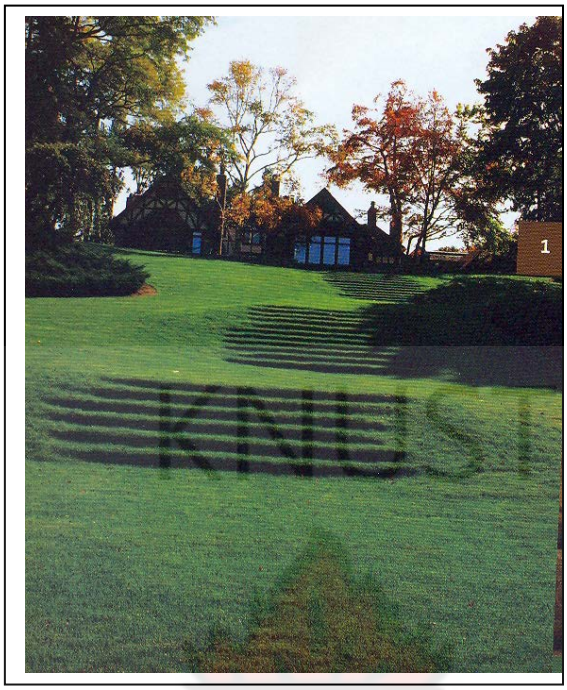


Fig. 6.4 Landscape designed to conform to the topography of the land
Source: Maison Magazine, Vol. 23 No. 3

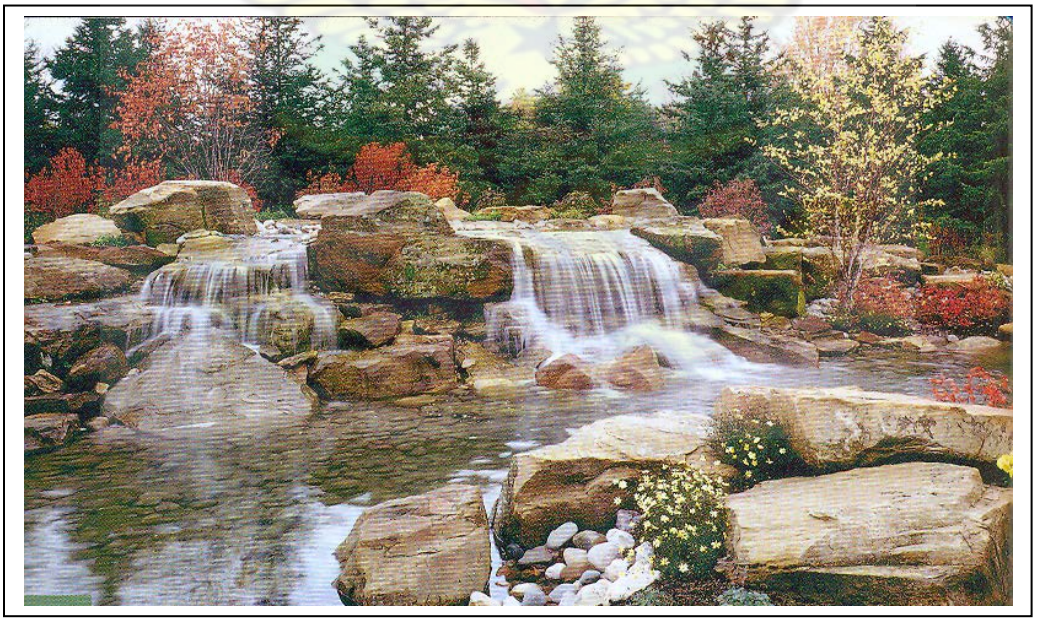


Fig. 6.5 Landscaping simulating a natural waterfall giving it a scenic beauty
Source: Maison Magazine, Vol. 23 No. 3

6.3.1. Landscape Architecture and Garden Art

It is particularly imperative to draw cogent analysis between the aesthetic considerations of the environment and the critical roles that landscaping plays in reducing the extent of degradation, as well as enhancing the physical outlook of the environment in which humans live and make life meaningful. Landscape architecture, as an offshoot of landscaping, employs the ideals of science and the skills of art to embellish, and sometimes remodel large expanses of land in accordance with a comprehensive, aesthetic plan taking into consideration topographical features such as hills, valleys, rivers, and ponds; vegetation such as trees, shrubbery, grass, and flower; and constructions such as buildings, terraces, roads, bridges, fountains, and statuary. The aesthetic underpinnings involved in this form of beautification of the environment cannot be overestimated. However, in its natural state, the environment itself offers unique challenges caused by size, topography, climate and surrounding areas.

It is indicative from its former nomenclature landscape gardening – that landscape architecture harnesses all resources of nature to create the beautiful scenic environment. Even though, it used to be limited to the creation of gardens around private dwellings, today landscape architecture covers a much wider area of concerns, ranging from the setting out of small gardens to the ordering of parks, malls, and highways (Microsoft Encarta Encyclopedia, 2003).

As pointed out earlier on in this section, landscaping involves the principles and elements of art (aesthetics) in a collaborative way with the dictates of the biodiversity to enhance the scenic look of the entire natural and built environment. In view of this, considerations such as layout of the terrain, climate and soil conditions are very important. The nexus between nature itself and human activity is aesthetics. Consequently, the plan of a landscape may be largely formal or informal. A formal garden may be based on a symmetrical arrangement of geometric beds or an informal arrangement of planting to make as much use as possible of the natural characteristics of a particular site. Alternatively, a plan (or design) may also be emphasized or represented asymmetrically, for example as in a Ghanaian garden, a placement of rock and sand, for a desert garden, or for a simplified massing of naturalistic shrubbery.

The emotional condition arising in the process of aesthetic perception of the landscape gardening is a kind of response to the perception which can be expressed through the feeling of the beautiful. This feeling can perfectly be induced when, for example, a small walled garden is presented in a view that is convenient to the eye. Also, a large park, for instance, benefits from spacious vistas and massive grouping of trees. The nature of most landscapes take advantage of natural land formations, such as hills or pools. This may further consider contrasts in shady masses and open, sunny spaces, especially in relation to climate. Contrasts in the size, colour, and texture of vegetation are also

important. Planting may be designed according to season so that different parts of a garden bloom at different times. Some important elements that are required in landscaping to make the scenic aesthetically pleasing may be fountains, streams, and pools; sculpture and benches; walls, walks, and terraces; and small structures such as gazebos, kiosks, and trellises.

Historically, the environment benefited from a lot of landscaping ever since man began to develop technologically and started becoming more consciously aware of the aesthetics of the environment. As early as the third millennium BC, the Egyptians planted gardens within the walled enclosures surrounding their homes. As time progressed these gardens were formally laid out around a rectangular fish pond flanked by orderly rows of fruit trees and ornamental plants, as seen in tomb paintings.

Elsewhere in time past where human beings added value to the environment by creating aesthetically pleasing landscaping included Mesopotamia, which had the Hanging Gardens of Babylon – one of the seven wonders of the Ancient World. The scenery here included full-size trees planted on earth-covered terraces raised on vaults in a corner of the palace complex of Nebuchadnezzar II. It has been indicated that the Assyrians and Persians also developed great tree-filled parks for hunting on horseback. In their quest to integrate the built environment with the natural environment they, therefore, planned rectangular-

walled formal gardens, irrigated by pools and canals and shaded by trees, usually set in vast barren plains, created purposely to symbolize paradise. Similarly, ancient Greece preserved sacred groves as habitats of divinities. Their houses included a walled court or garden usually surrounded by a colonnade.

The same kinds of scenery were prevalent among the Romans whereby their houses also included a colonnaded garden. Scenes of this nature were depicted in wall paintings at Pompei.

Williams (1996) again pointed out that in the non-western world, the Muslims, living in areas where the climate is generally hot and dry, created gardens of one or more enclosed courts planted with trees and shrubs, and surrounded by cool arcades, which were enlivened with coloured tile work, fountains and pools, and the interplay of light and shade. Also in India, gardens in which flowers, fruit trees, water, and shade were arranged in a unified composition were built by the Mughals in the 17th – and 18th –centuries. Aside from this, palaces, temples, and houses were built around a series of courtyards, which included trees and plants often in pots so that they could be changed with the seasons, and pools in China. Here, the imperial city in Beijing had elaborate pleasure gardens with trees, artificial lakes and hillocks, bridges, and pavilions. Like the Chinese, Japanese also have a long tradition of gardens, incidentally inspired by Korean and Japanese models. Palaces, temples, teahouses, and private houses all had garden

settings that were closely integrated with the buildings (Microsoft Encarta Encyclopedia, 2003). Kyoto is especially famous for its gardens, which included pools and waterfalls; rocks, stone, and sand; and evergreens. In other instances, they probably contained stone lanterns and sculptures, and wooden bridges, gates and pavilions.

The fact has been established firmly from the foregoing survey of the various landscaping which humankinds have created globally that man became conscious of the progressive determination suffered by our physical environment. Therefore, there was the need to step up action to increase the protection of areas of great aesthetic value or natural beauty. Thus, those landscapes or locations considered of great value (or quality) were consciously created to protect, conserve or optimize the environment for its aesthetic enjoyment. The nexus, however, between the creation of architectural landscape and the natural physical environment is that a conscious attempt is added by man to exactly simulate those peculiar features of the natural environment that are perfectly integrated into the built environment in a manner that reveals the aesthetic (artistic) elements to showcase nature's scenic beauty.

Gold (1980) points out that analyzing the scenic beauty of the environment objectively can translate its components into formulas appropriate for use in the design of landscape. He further asserts that the appraisal of the 'built

environment' (in landscaping) has been demonstrated in its attractiveness, which is decisively influenced by emotional and aesthetic considerations that depend on individuals' selective perception.

A striking characteristic of a garden is that it is an 'artefact' made by someone. However Oswald Siren indicates that "…its elements are independent of man (they have a life of their own, which may take a different course beyond the designers intention, if not attended" (Siren, 1949). This corrects the fallacy that the 'raw' natural environment is not entirely beautiful unless it is transformed by man into a garden. Even though the garden is created and received within a framework of conventions, it can exist, although in a seemingly deteriorated way, if there is no gardener to keep it.

The aesthetic perception of the environment is clearly more total, the common result of several senses at play concurrently. In contrast, however, art is an aesthetically developed and refined area. Only the senses of sight and hearing properly have their own art forms which have developed a language, and a technique is applied to execute its form. Environmental works that, in a way, are connected to the tradition of garden art, and landscape architecture appeal to the senses of smell and touch as well as sight.

6.4 Architecture (indigenous and modern)

Acting within the framework of sociological and ecological principles, architecture seeks to conserve or revitalize the contextual landscapes of their environments. Since time immemorial, man created shelter, apart from food, and clothes, to meet his necessities. The prehistoric man dwelt in caves and large holes created in huge trees to protect them from the harsh weather conditions and wild animals in the wilderness. As man began to develop technologically, he used the resources from his environment (i.e. the vegetation) to create a more suitable shelter. This gradually metamorphosed into the kind of architecture, both indigenous and modern we have in our communities today (Figs 6.6 & 6.7).

Fig. 6.6 Indigenous architecture with scenic beauty
at Ayimensa Village, near Madina, Accra
Source: Photographed by the researcher

Fig. 6.7 Aesthetic appeal of modern architecture: National Theatre, Accra
Source: Photographed by the researcher

Learning from the past reveals to us how human beings have changed or modified their environments throughout history. Invariably, man relies mainly on the resources of the environment to consciously and pragmatically apply sound ecological and scientific principles in conserving nature and adding beauty through the use of plants inside and outside homes (Figs. 6.8 & 6.9).

Fig. 6.8 Conserving the natural environment through the use of plants outside homes
Source: Maison Magazine, Vol. 23 No. 3

Fig. 6.9 Conserving the natural environment through the use of plants inside homes: East Legon, Accra.
Source: Photographed by the researcher

As population density began to increase and natural resources are depleted and squandered decisions affecting the sustainability and aesthetics of the environment have assumed a paramount dimension whereby certain forms of architecture could serve as practical solutions to protect and beautify the environment. Unlike the modern architecture, the traditional architecture were carefully integrated into the natural environment, whereby existing trees are, more often than not, allowed to stand in order that they could play major roles in the surroundings as resting areas, spots for rituals, grounds for entertainments or festivals, etc. In addition to geology, topography, climate and historical developments of indigenous folks, the social structure and habits of people influence greatly the form of architecture that develops in the area they inhabit. Nonetheless, the definite place the individual had within the old Ghanaian community where he shares responsibility with others his architecture did not aim at isolating him from the rest of the community, but rather aimed at creating a suitable environment for the development of community living.

Even though the initial motive behind the structures raised by the indigenous folks might not stem from aesthetic considerations, the eventual results probably promote aesthetics and protection of the environment. Taking the typical Akan house as an example, its plan has certain features which can best be appreciated in terms of how the people live their daily lives. The house is built in a manner that all rooms (mostly used as bedrooms) open onto an internal courtyard where

inmates interact with each other very often. The courtyard which serves as the living area of the house is used for other important things such as an area for arbitration of cases, playground for children, cooking place, story-telling ground, and a place where family celebrations and funerals are held.

It is indicative from the indigenous architectural set-up that the court-yard of these indigenous homes are used for so many activities that would have taken large expanse of land in the case of modern architecture which because of comfort and convenience demanded by the modern world, the people would clear the vegetation in order to fulfill those demands in their daily living. However, modern architecture uses landscaping to replace the natural vegetation that might have been lost through the construction. Furthermore, modern architecture like skyscrapers, not only add magnificent aesthetic value to the built environment but rather saves the vegetation by making use of a small area of land and a vast expanse in the air (Fig. 6.10).

Fig. 6.10 Skyscrapers serving as windbreaks for trees around them: Cedi House Opposite National Theatre, Accra
Source: Photographed by the researcher

Furthermore, apart from the eclectic functions of the built environment some architectural edifices, aside of beautifying the environment, serve as wind breaks to the natural vegetation preventing age-old tall tress of biological significance from falling prematurely as a result of raging storm that characterize some seasons. Aesthetic knowledge, geological and scientific principles that are applied to most modern architecture take into consideration environmental concerns, which eventually help boost up the entire aesthetic value of the environment.

6.5 Visual/Graphic Communication Activities

Effective communication through verbal or graphic means is a strong catalyst in transforming, moulding and strengthening attitudes of human beings on issues concerning their environment as well as continuity of life. However, it has been established that graphic symbols employed in visual communication leave stronger lasting impressions in the minds of people than verbal messages which are easily forgotten. Invariably, human activities through visual/graphic communication help reshape the natural environment, and to a large extent, enhancing the utilitarian and aesthetic quality of the built environment. Typical among these activities are information design, advertising and environmental graphics.

Heller and Fernandes (1999) allude that communication through information design often clarifies and concretizes mostly nonvisual information, such as facts and figures. The parallel phenomenon established between this exercise and environmental issues is education. Facts and figures are used in pictorial sign symbols to guide people in our communities away from confusion into understanding the state of environment.

People live, work and make life meaningful in the built environment, amidst the natural environment, they create for themselves. However, for their livelihood to be more meaningful they need information that would be communicated

strongly to them. Effective information design not only looks aesthetically pleasant in the environment, it also adds an intellectual dimension that increases the viewer's understanding, as well as achieving its educative goal within the congenial time and space.

A more important communication activity that adds a vivid visual quality to the built environment is advertising. Advertising, especially, outdoor in the form of giant billboards, is so completely intertwined with the Ghanaian life such that it is indeed everywhere and virtually on every surface in the environment (Fig. 6.11).

Fig. 6.11 Billboards in environmental protection, near Centre for National Culture, Accra
Source: Photographed by the researcher

In Ghana today, advertisers are exploring diverse media and surfaces for their business, which, help check some environmental problems as well as beautifying the ecosystem. For instance, the sides of trenches that are cut through seemingly

hilly areas during road construction are well reinforced by concrete and turned into advertising spaces. Also, certain parts of the environments that are liable to be misused by inhabitants as refuse dumps are well covered with giant metal sheets which serve dual purposes as advertising boards and means of checking environmental pollution (Figs. 12 & 13).

Fig. 6.12 Side of roads as an advertising space used to check environmental degradation at Tek Junction, Kumasi
Source: Photographed by the researcher

Fig. 6. 13 Aluminum sheets checking pollution as well as used as advertising space, Kumasi
Source: Photographed by the researcher

Similarly, environmental designs play the same environmental roles as advertising designs. Today, creations in environmental design world involve a wide range of activities, from billboards to wayfinding to interactive kiosks. Indeed, virtually every aspect of design deals with an outside or inside physical environment. The systems that are devised in the execution of activities in this field are not only easy to follow but aesthetically pleasing within the environment. Specifically, environmental design develops the physical environment, interior and exterior, to meet one or more aesthetic or day-to-day functional needs, or to create a specific sort of experience – the focus being the human designed environment. In this vein, environmental design has been described as:

> "We live in the world by design. Creating the everyday environment in which we live involves complex systems of cultural meaning, visual communication and the use of tools, technology and materials...Environmental Design encompasses the built, natural, and human environments and focuses on fashioning physical and social interventions informed by human behaviour and environmental processes. Design asks us to find answers to the most fundamental of human question, how should we live in the world and what should inform our actions?.." (http://en.wikipedia.org/environmentaldesign) retrieved 19/02/07.

This definition alludes to the important core of environmental design which is information dissemination about operations in the environment built by man within the natural environment. In other words, it may be described as graphic communication in the built environment.

To be able to communicate effectively, it is the responsibility of graphic communication not only for directing traffic or beautifying the environment but also for education illumination. Good education enables people to appreciate the aesthetic values of their environment. For instance, a sign on a zoo should not only direct the public where to go in the maze of displays and attractions, but it must also be informed about the contents of the displays. The job of creating informational signs and paneled often take into consideration the topographical setting of the landscape. Because individuals read differently – and some do not read at all – it is important to present information in an engaging and aesthetically pleasing manner consistent with the overall identity of the zoo. Sometimes the designer builds a format typographically; at other times, types and image are combined. Sometimes, too, details of the flora and fauna are well rendered; sometimes photographs are the principal visual ingredient. Of course, maps and charts play important roles in showing where species drive and migrate.

Creating information graphics in the physical environment is fundamentally not all that different from doing it in a print environment. However, three-dimensional space, like the environment, allows for more media options than does print. Viewers have the freedom to move round and appreciate its beauty. Similarly, outdoor advertising promotes the panoramic view of the built

environment as well as selling products, conveying messages and providing entertainment.

In addition to enhancing environmental education, environmental design involves creating and establishing an aura or mood for events, places, and institutions, such as stadiums, national parks, commercial supermarkets, hotels, cultural centers, churches, etc. The myriad of materials employed may include banners and flags, signs and guideposts, stands, kiosks, billboards and electronic spectaculars – both temporary and permanent.

6.6 Environmental Art (Sculpture)

No meaningful discussion can be done concerning protecting and enhancing the beauty of the natural environment by man without considering environmental art. Some environmental art is ephemeral, designed for a particular place to satisfy the aesthetic demands of that specific site in the larger environment. However, environmental art could be permanent serving historical, cultural and sociological purpose. In this light, it is often regarded as a form of expression that is grounded in an ethos that focuses on interrelationships. These relationships include not only physical and biological pathways but also cultural, political and historical aspects of ecological systems.

Historically, environmental art emerged in the 1960's in response to the environmental movement whose intention was to facilitate a sustainable balance between human and non-human nature through restoration, education, and multidisciplinary collaboration. Some of these art forms may include monuments, sculptures, etc.

6.7 Incinerators

Previous discussions have given ample evidence of creations of man that add aesthetic value, as well as protect the environment, be it natural or man-made. Incinerators are some of the architectural structures that created a device to address issues of environmental concerns. However, their physical features have the elements of design inherent in them rendering them as works of art in the built environment.

By definition or description, an incinerator is a structure or furnace for burning refuse. Scientifically, incinerators deal with waste management technology that involves the combustion of waste of high temperatures. Even though technologically, this device is scientifically oriented, structurally it is aesthetically oriented (Fig. 6.14). In Ghana, however, some municipal assemblies have authorized the construction of a few incinerators in their various communities to help in the waste management efforts of the district assemblies (Fig. 6.15).

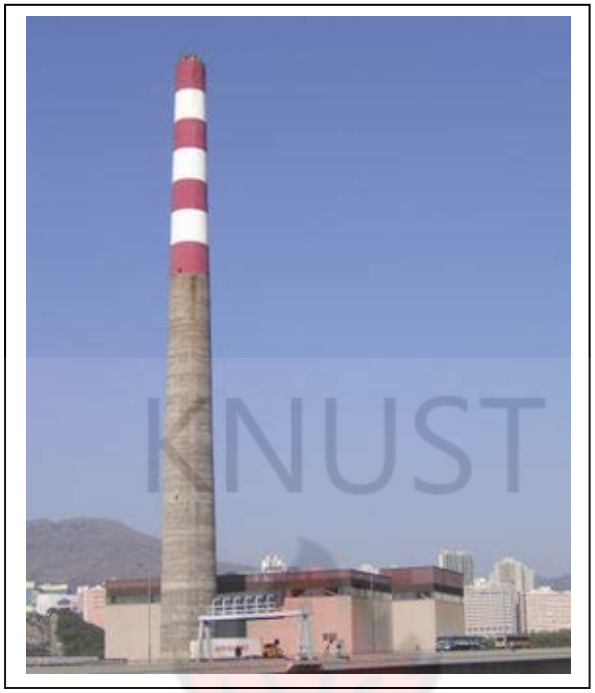


Fig. 6.14 Incinerator built to check solid waste pollution as well as adding beauty to the built environment
Source: http://en.wikipedia.org/wiki/incinerators

Fig. 6.15 Locally built incinerator to help check solid waste pollution at Konongo
Source: Photographed by the researcher

Incinerators are considered to be alternative to landfills and other biological treatment methods such as composting and anaerobic digestion. Not only do incinerators have aesthetic considerations in the environment but, incineration of waste materials of high temperatures, in effect, converts waste into heat that can be used to generate electricity. Also, instead of finding space for additional landfills for solid and hazardous wastes in densely populated areas, incinerators are a better option. Countries considered "green" such as Sweden, Denmark, Switzerland and Germany, among others, rely heavily on incinerators, with some countries using incineration to dispose of all of their post-recycling municipal waste. Aside from this, in most developed countries, incineration is a key process in the treatment of hazardous wastes and clinical wastes. It is often imperative that medical waste be subjected to the high temperatures of incineration to destroy pathogens and toxic contamination it contains.

(http://en.wikipedia.org/wiki/incinerators) - retrieved 19/02/07

6.8 Household Environmental Aesthetics

In Ghana today, there is a growing awareness of floral diversity which has enhanced our admiration of biodiversity. But one wonders how the aesthetic consciousness of the people has shaped this admiration as regards their local culture and surrounding wild nature. This section offers a brief overview of the contribution of indoor and outdoor decorations to the aesthetic consideration and protection of the environment. Three distinct household decorations that

stand as regards environmental awareness are: *natural flowers and plants; artificial flowers and plants; and dried flowers and plants.*

As stated earlier on, it is interesting to explore how people's environmental awareness seen in households is shaped by, and is interrelated with, their sense of beauty as well as plentiful wild nature surrounding their daily life. This is a relatively new tradition in our Ghanaian society. Traditionally, indigenous communities in Ghana did not have household floral decorations whether artificial or natural. The present day appreciation and usages of household floral decoration is a result of foreign influence. However, indigenous people, probably would leave aesthetically pleasing plants and flowers in the compounds when they are building. Others are purposely planted in their compounds to serve medicinal purposes.

Environmental awareness and appreciation of beauty have promoted this practice to be in vogue in perhaps every modern house, school premises, offices, churches, restaurants, hotels, etc. Temporarily, different kinds of potted natural or artificial plants and flowers are used to decorate celebration and ritual grounds such as festivals, durbars, parties, weddings, etc. (fig 6.16 – 6.20).

Fig. 6.16 Potted natural flowers used as decoration at the entrance of a shop, Anyinam Lodge, Obuasi

Source: Photographed by the researcher

Fig. 6.17 Potted dried plant in researcher's own living room, Kumasi

Fig. 6.18 Potted dried and artificial plant in researcher's own living room, Kumasi

Source: Photographed by the researcher

Fig. 6.19Artificial flowers in a vase in researcher's own living room, Kumasi

Fig. 6.20 Potted natural flowers used to decorate a porch in researcher's house, Kumasi

Source: Photographed by the researcher

As a result of the mass patronage of these decorative features much attention is focused on the artificial ones more than the natural ones. The reason most people prefer to use more artificial flowers and plants is the easiness of their maintenance and storage. They are usually washed with detergent and water and dried outside. Compared to natural flower and plants, people do not have to water, give fertilizer, remove insects or dead leaves and flowers, and even prune artificial flowers. It is no exaggeration to say that artificial flowers are the most popular as well as dominant household decoration. Nowadays in Ghana, one will find it much harder to go into a house without artificial flowers than a house

with natural flowers and plants. They come in many different varieties of flowers, plants, sizes, colours and forms, and people also decorate them in different ways. They are generally put in miniature rattan baskets, ceramics or glass vases. It is very important to indicate that these artificial flowers are made of different materials, such as plastic, silk, satin, taffeta paper, wood, and the designers like to blend different textured artificial flowers as well as combine flowers with green leaves.

Nevertheless, natural flowers and plants remain the outstanding choice in the compound of most homes, hotels, institutions, churches, etc., whereas the dried and artificial plant and flowers are limited to the indoor spaces. However, all depend on the different aesthetic tastes of people. Some like fruit trees in their compounds whereas others like to get indoor as well as outdoor ornamental natural plants. Examples of some of the various fruit trees are dark green, green and yellow coconut trees, mango trees, avocado trees, orange trees, etc. In addition to the fruit trees, people also like a kind of lawn-type natural flowers, which are artistically shaped to the desired taste of the owner of the house in which it is planted. This increasing appreciation of natural artificial and dried flowers and plants has provided a pragmatic avenue for florists and horticulturists to increase the awareness of the aesthetic aspects of these biodiversities and the need to protect and conserve them.

Most of the activities of man aimed at protecting as well as beautifying the environment discussed in our earlier submissions could be regarded as well-planned proactive efforts meant for that purpose. However, it is important to indicate that some other forms of human activities such as ridge-tilling, terracing in rice cultivation and contour ploughing in scientific agriculture not only aid in protecting surface of the soil from erosion but a physical look induces some degree of aesthetics to the natural environment. In the same vein, activities such rooftop landscaping (mostly prevalent in Japan), recreation centres, bridges, dams, flyovers, tarmac roads and sea defence among others introduced into the built environment largely contribute to the protection and beautification of the portion of the environment they find themselves.

Summary of Discussions

In this chapter an attempt has been made to survey some activities that Ghanaians use to address the environmental challenges that affect the aesthetic aspects of both natural and built environments caused by the people themselves. Various attempts have been made by man through sacred groves underscored by cultural and religious philosophies as a form of conserving the biodiversity by indigenous folks in Ghana. This practice, having received public or governmental attention, culminated into setting aside protected zones known as nature reserves. In complementing all these efforts, such activities such as landscaping, garden art or landscape architecture, indigenous and modern

architecture, visual/graphic communication activities, environmental art, incinerators, household aesthetics, scientific agricultural practices, rooftop landscaping, bridges, dams, etc. have also affected the environment positively.

CHAPTER SEVEN

DISCUSSIONS, SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

"We abuse the land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect" – Aldo Leopold

7.0 Overview

In chapter five, the findings from the field study on the various activities by man (whether through deliberate or accidental means) that affect the aesthetics of the natural environment in negative ways are presented. Chapter Six, however, highlighted on the positive aesthetic activities that promote the protection of the natural as well as the built environment. Based on the findings in the preceding chapters, this chapter seeks to deal with thorough discussions on the challenges as regards the philosophical and ethical characteristics of the relationships between human society and the totality of nature, of which humans are a part. Aside from this, the researcher presents a cogent interpretation of the results and relates these findings to the research.

The chapter also makes a brief comparison between the findings in the Literature Review of the thesis with the research findings. It also discusses logically and cogently the contribution of the results to knowledge in the general field of

study. In addition, it offers some valuable suggestions and recommendations that will further enhance the aesthetic impact of man's activities to enhance the beauty of the environment as well as promote its protection to benefit mankind in Ghana. Finally, the thesis ends with a summary and a conclusion.

7.1 The Synergy of Aesthetic Judgments of the Environment and its Protection for Human Survival

Comprehensively, societal development in this time and age, aimed at promoting the continual existence of the human race as far as the environment is concerned, cannot materialize without the conscious effort to integrate aesthetics into the developmental policies of all nations. In other words, human activities that aim at development cannot be separated from artistic activities imagined, created, executed or used by humans through diverse, conscious and unconscious ways. In indicating the inseparability of aesthetics and human activity as far as the environment is concerned, Iredell Jenkins gives a vivid establishment of this opinion by stating that:

> Aesthetic activity is not a segregated mode of behaviour, initiated by an independent power in man, supported by separate organic process, directed toward some special private end. It is an irreducible integral, co-ordinate phase of total human behaviour. It is one part of the response with which man meets the things he encounters, and it makes its own unique contribution to the process that is adaptive with those things. There are other equally vital and fundamental characteristics of the human spirit; these also assert their own contribution to response and adjustment. Aesthetic activity occurs always within this total context of human

> behaviour, influencing and being influenced by the other parts and by the whole (Iredell, 1958).

Judging from the environmental point of view, the researcher thinks that when the myriad of benefits that society can gain from the environment are considered, it is very paramount to attach aesthetic considerations that are of immense value to mankind.

In the same vein, it is the opinion of the researcher that aesthetic judgment of environmental works of art is challenging, because the environment offers a broader perspective for philosophy of aesthetics than standard works of art (i.e. objects created by man). Certain types of environment are particularly valuable because of the view they offer, but some because of fragrance, tactile qualities, etc. Some are poor in view, but rich in "whispers" of nature (sounds of water, wind, birds, frogs, or other animals). In buttressing this view on the range of perception in the natural environment, Johnston relates this to Chinese gardens by saying:

> Chinese gardens are…making a direct appeal to the emotions and devoted exclusively to serving all the senses: visually unfolding a succession of pleasing surprises introducing textures which seek to be touched; mingling the perfumes of blossoms and bark; capturing whispers of moving leaves and water; exploiting the ever changing character of the trees whose varying beauties enhance each season (Johnston, 1991).

It is suggestive in the opinion of the researcher that aesthetic contemplation of the environment can be either general, or related to particular (visual, tactile, or olfactory) aspects of the environment. Listening to various sounds (of water, rain, wind, birds), or watching particular objects, or sight, sometimes develops as a separate ability in relation to the overall contemplation of the environment. For example, bird-watching developed as a particular pastime can be very rewarding as a result of the ability of the environment evoking the emotional responses in man responsible for aesthetic appreciation.

It is particularly imperative to point out that indications from our field of study reveal the damage caused to those aspects of the environment capable of evoking the aesthetic feeling and appeal of the natural environment. The 'whispers' of the natural environment that induce aesthetic feelings are virtually dead as a result of the prevalence of high-powered speakers and other gadgets that make chaotic noise. This development damages the sense of time, and replaces meaning and depth with chaos, force and distortion in the natural environment. Sensitivity to sounds in nature seems now almost lost for man in the developed cities. Thus, sounds of the natural environment are drowned in aggressive sounds of the urban environment, or they are already below the damage faculty of hearing, or just absent, because nature is dead.

Perhaps, it is the realization of this chaotic menace that compelled the sages of old of indigenous people of the Greater Accra Region (specifically, the Gas) to institute a taboo concerning noise making during the period of their *Homowo* festivities. This ban on noise making during such a season brings the natural environment back to its original state whereby individuals can satisfactorily enjoy the aesthetic feelings induced from sounds like rain drops hitting leaves, sounds of crickets, birds, or frogs, or sound of the wind.

May be the tactile qualities of the environment are less understood or recognized than other percepts. Some people have tactile experience, whether they touch the texture, or just watch it. They, perhaps, "translate" part of the visual experience into tactile – sometimes just because it is not possible to touch it.

Judging the aesthetic quality (value) of the environment and the need to protect it from degradation, it is very important to consider the philosophical principles underlying environmental aesthetics. Aside from this, in appreciating the beauty of the environment one is often confronted with positions and problems. These related issues if not well understood render the exercise of protecting the environment for aesthetic considerations difficult. Carlson (2002) indicates that the central philosophical issue of environmental aesthetics is determined in large measure by the contrast between the nature of its objects of appreciation and the nature of works of art.

Paradigm works of art are more or less discrete, stable and self-conditioned objects of appreciation typically meant to be appreciated with specific senses and from particular distances and positions. Carefully analyzing the natural environment, each of these features is in marked contrast with those objects for appreciation in environmental aesthetics. Since these objects are everyday environments, appreciators are immersed within the objects of their appreciation.

Distinctively, works of art are the creations of artists who intentionally and typically create works of art by working within artistic traditions and by embodying their intended designs in objects. This implies that works of art belong to some particular artists, traditions and the designs are determined causally and conceptually. By contrast, however, the objects of appreciation of environmental aesthetics are not typically the creations of artists. They come about 'naturally'; they change, grow and develop by means of natural processes. Even when environments are human-influenced or human-constructed and thus involve human agency, only rarely are they primarily the products of designers working within traditions and embodying designs.

The upshot is that aesthetic experiences of Ghana at large, thus the environment, are seemingly very different from the aesthetic experiences of art. In the former case, unlike the latter, appreciators are confronted by, if not intimately and

totally immersed in, objects of appreciation that impinge upon all their senses, are constantly in motion, are limited in neither time nor space and are of a non-predetermined nature and meaning. Appreciators are within and among objects of appreciation and their task is to achieve aesthetic appreciation of those objects. Moreover, appreciation must seemingly be achieved without the aid of frames, the guidance of artistic traditions or the direction of artists and their designs. Thus, in order to treat the aesthetic aspects of Ghana at large, environmental aesthetics must begin with basic questions, such as what to protect and how to protect it. In answering these questions it would be realized that allowing the environment to be destroyed through pollution, land degradation, negative cultural practices, etc. will render the natural and the built environment aesthetically unpleasant.

On the other hand, the questions of what and how to protect the environment of Ghana may have a number of different philosophical positions within environmental aesthetics. Carlson (2002), however, views these positions in two distinct perspectives (i) *the engagement approach*; and (ii) *the cognitive approach*.

The engagement approach: This approach analyses the large natural environments, which most literally and completely surround appreciators, impinging on all their senses and engaging them as integral parts of the environments themselves. In the researcher's view, this approach, perhaps

considers this kind of engaged experience of environments to be the essence of aesthetic appreciation. Carlson (2002) infers that "…appreciators must transcend traditional dichotomies, such as subject/object, and diminish the distance between themselves and objects of appreciation, aiming at total, multi-sensory immersion of the former within the latter". Invariably, this engagement approach to the protection of the aesthetic aspects of the environments is, moreover, not restricted to large natural environments, but is advocated as a model for the appreciation of all kinds of environments and objects, including even some works of art. It is in this view that this present researcher deems it fit to make allusions to several works created by Ghanaians such as monuments, recreational facilities, environmental art works, landscaping, architecture, etc. as part of the entire environment that need to be protected and salvaged from destruction, as well as making good use of them in enhancing the aesthetics of the environments.

Nevertheless, it is a major factor in broadening the scope of environmental aesthetics beyond that of landscape aesthetic and shaping it into a field not simply focusing on nature, but encompassing the aesthetic aspects of the Ghanaian environment at large. The Ghanaian environment at large refers to every single object – animate and inanimate – that surrounds human beings such as stones, mountains, vegetation, rivers, seas, oceans, architecture, roads, monuments, to mention just a few. Of course, every object, whether natural or

created by man, found in the environment has aesthetic elements such as line, colour, texture, shape, etc. inherent in them which deserve to be duly appreciated.

In his view, Allen Carlson explains that this engagement approach centers on immediate sensory involvement with any object of aesthetic appreciation. However, related approaches emphasize similar dimensions of the appreciation of both natural and human environment, arguing that these dimensions, although perhaps not exhaustive, are nonetheless essential (Carlson, 2002). In reviewing this thoroughly, it is suggestive that some kinds of emotional and feeling-related states and responses, such as *arousal*, *affection*, *reverence*, *awe*, *wonder*, *ineffability*, *aloofness* and *mystery* need to be considered in aesthetic judgment of the environment of savanna area of Greater Accra Region – the environments. It is clear that these responses present subjective answers to the questions of what and how to aesthetically appreciate the environments. To be more elaborate, these emotional and feeling-related states clearly point out that since appreciators (humans) appear to lack resources such as frames, artists' traditions and designs, as well as the guidance these provide, questions concerning the appreciation of everyday environment cannot be adequately answered. The implication is that for the world at large there is no such thing as correct or appropriate aesthetics appreciation; rather, it is simply a matter of

appreciators opening themselves to being immersed, responding as they will and enjoying what they can.

Analyzing these diverse situations, the researcher is compelled to deduce that in granting a central place to immediate sensory and feeling responses to environments, the engagement and related positions draw attention to important components of aesthetic experience. These views also, perhaps, may have other strengths. Thus, they may clearly recognize the open, unlimited and promiscuous nature of the objects of appreciation of environmental aesthetics and by correctly construing these features as aesthetic virtues rather than as defects of such objects. Moreover, they require no complex or elaborate theory to account for the aesthetic appreciation of environments and thus have an immediate intuitive appeal. Nonetheless, such approaches also may have problems. For example, perhaps they too quickly embrace an overly subjective account of the aesthetic appreciation of the world at large. In doing so, they appear to leave little room for the distinction between more and less appropriate aesthetics appreciation. Consequently, they seemingly not only endorse a somewhat trivial rather than serious form of aesthetic experience of the world at large, but also create a worrisome rift between the nature of such experience and the aesthetic experience of art, which clearly allows both for more or less appropriate aesthetic appreciation and for serious as well as trivial forms of it.

The cognitive approach: Unlike the engagement approach of appreciating our environments, the basic idea of the cognitive approach is recognized by the fact that appreciating is guided by the nature of objects of appreciation and thus that knowledge about their origins, types and properties is necessary for serious, appropriate aesthetic appreciation.

Invariably, this position can address the questions of what and how to protect the environments of Accra. It therefore suggests that the roles played in appreciation of works of art by frames, artists, traditions and designs may be viewed in these two directions as far as protection of the environments is concerned. Judging this critically from my jurisprudential orbit, one may come to the realization that in such approach, the roles of *frames* and *artists* are typically taken up by appreciators, and those of *traditions* and *designs* by objects of appreciation. Thus, when encountering objects of appreciation, protectors set frames that limit them in time and space and select senses relevant to their protection. This renders the protection of artist's works very rigid, stiff-necked and unappealing to the senses over a period of time. On the contrary, protection of the environments as a whole becomes much more interesting and enlivens or invigorates the senses due to its fluidity, change, growth and dynamism. Each moment, day, season or time has different sets of emotional responses the environments evoke.

Moreover, as artists work with their creations, so too, in setting and selecting, appreciators must work with the nature of objects of appreciation. In this way, environments themselves provide the analogies of traditions and designs, determining their own natures and meanings for appreciators to discover. These may, probably, offer guidance in light of which appreciators, by setting, selecting and discovering, can reach answers to the questions of 'what' and 'how' to protect it.

Unlike the approach highlighted earlier that recognizes immediate sensory and feeling response to environments, the cognitive position offers a somewhat cumbersome account of environmental protection of Ghana at large and thus may be somewhat less intuitive than the former approach. Consequently, in spite of whatever problems that are associated with the former, to be equally convincing the latter must be elaborated by examples. Consider, for instance, a grove of flamboyant trees radiating their aggressive but attractive reddish apparel (colour) when they bloom. It is significant to know that this is indicative of a particular season when these trees are clothed in a typical colour like this. Appropriate aesthetic appreciation, and especially its feeling component, will differ accordingly in another season evoking different emotional responses of appreciators. Also, consider the human-influenced environments of landscape architecture or gardening. It is important to know about the functional utility of reorganizing the natural environments to suit the taste of human beings. Such

knowledge encourages enlarging and adjusting frames, senses and even attitudes to appropriately appreciate the sweeping, uniform landscapes that result from gardening.

The foregoing discussions have highlighted very important aspects of the environments, 'what' and 'how' to appreciate these positions and the effects of these approaches on the emotional responses of mankind that present the impetus for the protection of the Ghana at large for his satisfactory appreciation. However, for individuals to be able to internalize the inherent qualities of aesthetics there is the need to consciously train the senses to naturally capture or be responsive to the Ghanaian environment at large (both natural and built environments). This exercise of training the requisite senses can be successfully achieved when one constantly develops positive passion and attitude towards the environments as a good source of lifting the 'spirits' of appreciators. In this vein, it is very important to indicate that when the environment is duly appreciated as a source of promoting satisfaction and joy, its aesthetic values may, probably, compel humans to develop its different zones into interesting places for recreation.

Nevertheless, there are few impacts on the environment if the aesthetic aspects are not properly enhanced to prevent it from obliteration. Obviously, most of those impacts are human-induced which can, however, be prevented through

pragmatic policies and actions. Firstly, majority of people rely directly on natural resource for their sustenance. They gather fruits, tubers, nuts and leaves from the forests and grassland for food. They are equally dependent on animals and other invertebrates for their protein needs. When these resources are overexploited many people will, in the near future, not have enough food for their survival. Also, several other living things including human beings cannot survive without rivers, streams, ponds, and wells, which serve as their main source of water. In the case of humans, they are used to fulfill their domestic and agricultural purposes. The destruction of vegetation at watersheds increases rapid evaporation, reducing water availability. The resultant effect, therefore, is the destruction of the beauty of the environment.

It is a commonplace to find that bamboo is greatly used instead of hardwood in the building industry as props in Ghana, basically because of the overexploitation of the forest timber. Groves of bamboo provide severe aesthetic quality to the environment. Its overuse these days poses some challenges to the visual quality of the areas they abound.

Biodiversity is another important component of the ecosystem that not only forms the basis of eco-tourism but also plays complementary roles in enhancing the aesthetic value of the environment for recreation. Its reduction gravely results in reduction in eco-tourism and therefore reduction in employment

opportunities and revenues for community, consequently stifling national development. If unemployment level goes up in developing countries such as Ghana, it culminates into poverty, which, in effect compels the people to resort to other sources of activity that eventually degrade the beauty of the environment.

On the other hand, the promotion of biodiversity, being an important component of the environment, provides recreation for many people who travel to nature reserves purposely because of their aesthetic appeals. This opportunity not only provides a therapeutic effect but helps bring the people closer to nature as well as evoking their emotional responses. More importantly, it helps people to appreciate nature and eventually imbibe in them the spirit of protecting and conserving the environment for posterity.

Having thrown much light on the visual necessity and functionality of several aspects of the environment, it is important to state that recreation only comes about as a direct consequence of the aesthetic pleasure and responses invoked by the visual quality of the environment. Recreational opportunities, however, provide direct and indirect benefits to society as a whole. When the environment benefits from good management and maintenance activities such quality camping, fishing, hunting, horseback riding and other outdoor recreational activities the lifestyle of the people as well as tourism activities can steadily improve.

From socio-economic point of view, practices that enhance recreational resources may include viable options such as picnic areas, campsites, equestrian trails, walking and biking trails, fishing sites, group camps, boat dock, and outdoor education areas. Even though these activities may be regarded as means of boosting the aesthetic quality of the environment they may also come with some degree of adverse effects on the ecological or landscape features of the environment.

In this vein, to minimize the adverse impact of outdoor recreation on the environment, managers of such facilities must be well acquainted with the various types of activities that cause the greatest site damage. Obviously, effects such as vegetation damage, soil compaction and erosion, water pollution, littering, landscape damage from off-the-road vehicles, man-caused fire and destruction of wildlife habitat.

The visual qualities of the forest landscape, for that matter, the entire natural environment, make an important contribution not only to a country's beauty but to its economy and tourism industry as well. Therefore, a blighted forest landscape, for example, implies lack of concern for the environment. An aesthetically attractive environment (both natural and built) is normally productive, and well managed. Most people would not be willing to pay to recreate in devastated and polluted environment.

Increasingly, making the conscious effort to enhance the aesthetics of the environment is probably the least expensive type of management programme to implement, if no obvious damage has been done in the past. With proper planning, every society can conduct a variety of management practices and still maintain aesthetic values if people are always conscious of what makes the environment visually pleasant.

As indicated earlier in Chapter Five, the environment may be severely blighted through various human activities. However, areas such as abandoned mine pits, polluted ponds, log stacking areas or field sawmills, recently burned or highly eroded roads, trails, fire breaks, stream banks or shore lines could be aesthetically enhanced by preparing specific site treatments which emphasize visual enhancement. Many such areas promote tourism and outdoor recreation development when aesthetically restored or enhanced.

Making aesthetics an important factor in environment enhancement, society should consider the following goals in their visual resource analysis:

- The character of the landscape, which is defined as the overall impression created by its unique combination of visual features such as land, water, vegetation, geologic formation, and structures.
- Macro-landscapes to be distinguished from micro-landscapes. The latter may be feature or focal landscapes such as forest meadows, lakes, streams,

or geologic features, or those influenced by such natural phenomenon as cloud patterns or sunsets. In Ghana, some parts of the environment that give aesthetic responses may be micro-feature or focal landscape; however, in some areas panoramic vistas may be prevalent.

- Areas of highest scenic beauty should be identified, as these are the most desirable areas for recreation facilities such as forest derives, trails, picnic areas and campgrounds
- Consideration should be given to such factors as motion, light, atmospheric conditions, season, distance of the viewer from the scene, location where the observer will view the scene, and the time of exposure.

In effect, the nexus of aesthetics and recreational management (enhancements) creates the opportunity for players in environmental issues to effectively protect the natural environment from further degradation as well as restore the damage that might have been caused to it in the past. With these pragmatic efforts, the visual quality of the environments (both natural and man-made) would be greatly boosted to promote tourism and other outdoor recreational activities.

7.2 Socio-Cultural Challenges in Environmental Protection

As pointed out severally throughout the dissertation, socio-cultural practices of a people cannot be overlooked in discussing issues of environmental concerns since the players involved in both 'enterprises' are human beings who play very

important pivotal roles. If human beings had not appeared on the surface of the earth the damage caused to the environment would have been very minimal – the surface of the earth would have experienced only those changes that are caused by natural means.

However, the solution to this menace as far as the environment is concerned lies largely in the precincts of Ghanaians who accidentally and deliberately cause most of these problems. Having become fully aware of their own actions as contributing factors to the problem of the environment, man has the tendency of reversing this unfortunate situation by changing his own attitudes and actions.

It has been established that industrialization and modernization have brought some problems to the environment. Before the advent of Europeans (missionaries) indigenous Ghanaians, and for that matter, Africans in general were a highly religious and spiritual people who did not take the environment for granted. These indigenous people believed in the presence of the Supreme Being besides many other spirits which were believed to be residing in the moon, sun, seas, rivers, trees, mountains, rocks, ponds, lakes, animals, etc. As a result of these strong beliefs of the people, these objects (animate or inanimate) were well protected, revered, propitiated and respected, since they were believed to serve as abodes for the spirits which were responsible for their welfare and continuity of their life.

Probably, those beliefs not only strengthened the spirituality of the people but they helped to ensure a strong sense of spiritual equilibrium between the seen and the unseen, the living and the dead, humans and other 'objects' present in the environment. To ensure the strict adherence to the observation of their beliefs and practices, the people instituted strong taboos that were used to control the activities of man, some of which included the ban on cultivating the land during certain days or season, not fishing from certain ponds or water sources that were believed to be the habitats for certain divinities; not defecating along or littering the banks of certain watersheds; not making unnecessary noise during certain seasons; forbidding the killing and eating of some animal species; not felling trees without propitiation; etc.

Even though, most of these beliefs and practices of our indigenous folk may be viewed parochially from the spiritual or superstitious point of view, they indirectly served ecological purposes by protecting the environment from degradation. As pointed out in the findings of the present research, most of man's negative activities that result in the destruction of water bodies, pollution of the environment, land degradation, etc. would have been largely controlled if most of these beliefs and practices were held in high esteem in our societies in this time and age.

It is important to indicate that these practices are often safeguarded "by sanctions against those members of society who refuse to follow the accepted modes of behaviour that are laid down for them in the culture" (Sarpong, 1974). To the extreme, some of these sanctions might be corporal (for instance, death), or spiritual (such as illness). Even though this form of punishment might seem too harsh or grave, it probably served as deterrent for likely perpetrators. On the other hand, a milder punishment could be effected which was more social in status quo (such as ridicule or banishment from the particular town).

A rather challenging issue that has also contributed largely to avert or weaken the strong sense of cultural traditions in our part of the world as well as indirectly aggravating environmental problem is the influx of alien religions in Ghana, and for that matter Africa. The introduction of Christianity, especially, into Africa came to condemn the cultural practices of our people and labeled them as barbaric and fetish. Their conscious effort further indoctrinated the indigenous folks to the extent that the indigenous folks themselves have now despised most of their good cultural practices that served as checks and balances on the environment.

The virtues of those beliefs and traditional practices cannot be over-emphasised since they formed the framework within which the totality of the way of life of indigenous folks operates. These virtues were applicable in traditional education,

commerce (trade), agriculture, politics, worship, entertainment, medical practices, etc. Consequently, they succeeded, to a large extent, in establishing a mutual correlation among themselves and the environment in which they lived as well as achieving a spiritual harmony among them and the spirit world.

Although civilization and modernity have made significant impacts on the development of societies, the environment has rather been affected in negative ways. In an attempt to employ scientific knowledge to improve the life of individuals, large portions of the environment are being seriously affected each day. For instance, scientific knowledge has made it possible for manufacturing industries, mining companies, construction activities, etc. to emerge bringing in their fold environmental pollution, degradation, thereby rendering the environment aesthetically unappealing. As indicated in our findings, it is essential to reiterate that until most Ghanaians become aesthetically conscious of the beauty of the natural environment, most of these problems would keep on thwarting our efforts to protect and conserve the environment through only scientific means.

Modernization has transformed many aspects of our entire being. This attempt should reflect in the way developing nations or societies can effectively appreciate the goods of both natural and built environment, apply aesthetic

knowledge and ensure that these aesthetic considerations are enhanced to protect it from degradation.

Additionally, poverty, civil strife, unemployment, political instability and lack of good education have also contributed to the rapid degradation of the environment. By extension, since not all people, in our diverse communities, are equal in their capacity to convert resources into well-being and not all of them live under the same cultural and social constraints, there is bound to be some degree of poverty. Different families or individuals might get the same resource allocation but might not have the same capability of converting these resources into whatever they have reasons to value. These problems compel members of the affected communities to depend solely on the environmental resources for all their needs in order to ensure their survival. As a result, the vegetation is being destroyed, water bodies are becoming depleted, wildlife resources are being devastated and the entire environment is polluted leaving it aesthetically unattractive.

Furthermore, review of several sources and perspectives, there are ample evidences showing that multifaceted projects have emerged, which evidently succeed in being genuinely productive of heightened consciousness of environmental problems. Anthropological researches and writings on environmental issues are notably on the rise. This appears to be just a little

contribution among the gamut of publications and teaching on environment (ecology) related concerns. However, religions being a major part of a people's socio-cultural embodiment, have not been projected much as having the potential to provide a world view, values, attitudes, practices, rituals, institutions, and sacred places for the effective harmonization of a vibrant and adaptive safe ecology to highlight its aesthetic values.

A critical observation, analysis and a deep thoughtful reflection on the state of the environment makes one worry about the earth's future. The attempt through many sacred natural sites to contribute immensely to the conservation of biodiversity is one of the footholds of indigenous religion. However, it would be false to assume that these cultural and social traditions are the same as conservation objectives in environmental agendas determined by policies promulgated out of the religious beliefs of the people. Traditionally, the indigenous folks are usually thought to benefit from the protection and goodwill believed to be offered by the deity in return for not disturbing the sanctity of the sacred area, rather than explicitly managing the resources for conservation goals.

Additionally, sacred natural sites, instituted though indigenous religious beliefs, also clearly express the interdependence of both ecological and cultural heritage. However, during, this era of technological advancement and education, caution should be exercised in linking biodiversity, indigenous knowledge and cultural

preservation in ways that may imply a kind of 'enforced primitivism' within conservation programmes. Such knowledge is not static and frozen in time, but depends on material conditions, responds to changing environments, and the uses to which it is put.

The spiritual connections between indigenous peoples and the earth are more than a reflection of traditional views on nature – they are also integral part of ethnic identity. In virtually every society, nature provides powerful symbols used to create strong links between the social and natural.

Ideas of the spiritual and sacred are not new within conservation paradigms. Early conservations were often inspired and awed by what they termed "the wisdom of wilderness" and "the infinite capacity of nature to uplift the human spirit" (Oviedo, Jeaurenaud, Otegui, 2005). Such values were frequently invoked and appealed to in the early protected movement.

The rekindling of interest in the spiritual or cultural and social traditions within conservation paradigms does not preclude scientific knowledge or approaches. A mutual integration of the two may probably help in achieving better positive results. Nature is of course, 'a system' that can be studied, understood, and protected. It is also 'a set of resources' which are to be sustainably and equally managed. Imbibing socio-cultural practices that could be shrouded in mystery,

beyond the bounds of contemporary science, which engenders awe, a source of pleasure to be enjoyed; a creative power to be praised, the environment could be better protected.

Ironically, most natural sites in our communities that survived till today without being damaged, and seem to be successful conservation programmes are sacred groves, such groves survive today without benefits from government gazettement, without government nature wardens, without government education centers and sometimes even without government goodwill. It is essential to note that when indigenous folks in our traditional communities want to establish new woodlands near busy towns, it has been found that when specially 'deified' markers are placed next to newly planted trees, and sprinkled with powder and animal blood used in worship, people start treating the special trees with respect and 'worship' them. Even more importantly, they water the deified saplings daily as a sign of respect to the gods. In the past these woodlands flourished because the people believed that they served their physical and spiritual needs.

As indicated earlier in this Chapter, the major threats faced by the socio-cultural means of protecting the environment are largely and broadly related to modernization and globalization. Some of these threats include: agricultural expansion; demographic changes; erosion of traditional values, particularly

associated with widespread diffusion of institutionalized religions brought in by colonization processes, and which considered traditional beliefs as 'superstitious'; modern land reform programmes which have liquidated traditional land ownership; the expansion of mining industries; tourist development (e.g. building hotels, entertainment centers, etc.); changing social and economic aspiration of communities; administrative and policy changes. Hitherto, many traditional beliefs and practices acted as effective controls in protecting the environment. However, all these complex cultural and social traditions are now being overwhelmed by these changes.

Nevertheless, some good and effective activities embarked upon by man can help largely in protecting and enhancing the aesthetic aspects of the environment. Some of these are nature reserves and national parks as well as sacred groves already discussed above; zoos, landscaping, garden art or landscape architecture, architecture, visual communication activities, environmental art (outdoor sculpture), incinerators and household environmental aesthetics.

The results of this study corroborate the hypothesis that ***aesthetic considerations and good socio-cultural practices of Ghanaians contribute immensely to the beauty of the environment and its protection in Ghana***. Based on these findings and in a bid to establish a mutual equilibrium between Ghanaians and nature,

some valuable suggestions and recommendations shall be offered, which can help solve most of the existing environmental problems. These suggestions shall also provide a framework within which humans can prevent and protect the environment from further degradation as well as conserve its aesthetic qualities for appreciation.

7.3 Comparison between Review of Related Literature and Research Findings

Having done an extensive study on the aesthetic impact of Ghanaian socio-cultural practices on the environment and its protection in Ghana, the relevance of this research cannot be well measured without making the conscious attempt to compare what has been encountered in the review of related literature and that of the field research findings. In this exercise, the researcher shall throw more light on some relevant points and observations referred to in the dissertation that will help broaden the knowledge on the significance of the study.

The most important and conspicuous thing that emerged in both our review of related literature and findings is the importance of aesthetics, social and cultural traditions in the protection or conservation of the environmental goods and services. As pointed out by Hettinger (2005), the aesthetic appeal of the environment should be the main pivot around which the effort to protect and conserve environmental goods should evolve. Other writers like Gyekye (2003),

Carlson (2002), Fisher (2006), Loftis (2003), Russell (1980), Bardy (2003), and Budd (1998) have comfortably expressed their sentiments about the need to safeguard the environment from degradation because it has aesthetic qualities that are a natural phenomenon for its protection. By extension, this revelation by those authorities exposes the fact that objects that have valuable aesthetic elements imbedded in them deserve to be well protected to enable all the senses of man responsible for aesthetic appreciation to be duly satisfied.

Contrary to this assertion, some philosophers of art such as Thompson (1985) and Walton (1970) think that it is relative to consider the environment as an aesthetic object due to its complex nature. However, the research findings reveal that the entire environment (natural or built) is an object, which has all the elements and principles of aesthetics embedded in it. Elements and principles of design such as lines, textures, shape, colour, etc. could be found in trees, mountains, seas, rivers, landscape, architecture and so on. In cognizance of the fact that aesthetic knowledge and skills have been applied in the growth of many sectors of our society such as education, politics, transportation, religion, commerce, health delivery, tourisms, etc, the environment is the community in which all these sectors operate. This awareness exposed by our research findings indicate that aesthetic aptitude, skill and knowledge can be harnessed to impact positively on the protection of the environment.

Also, the research findings agree in so many ways with some of the arguments made in the Literature Review that aesthetic objects are that which appeal to the senses: things of beauty, taste, transcendence and the sublime. This fact is supported by Frolov (1984), and Kennick (1979) when they pointed out that aesthetic qualities are always dependent on features like curving and angular lines, colour contrasts, movement and things that appeal to the senses as well as physically discernible objects without any exercise of the senses. The only difference noted between this and the research findings is the application of the aesthetic knowledge to works of art, which is the creation of man that only forms a small part of the entire environment. The research findings show that there is aesthetic quality in natural as well as the built environment of which artistic objects are a part.

The researcher also noted in the Literature Review that beauty is held as the central concept of an aesthetic experience by indigenous people in our traditional societies. As Gyekye (2003) points out, beauty in general is not limited to works of art alone, but is a multi-faceted concept which embodies what is 'good', and can be expressed in diverse areas to refer to the beauty of speech, thought, action (behaviour), appearance, and of humanity. This belief of the indigenous folks has reflected in the research findings whereby some traditionalists use taboos and superstitions to prohibit people from destroying some portions of the environment perhaps because of its aesthetic considerations.

In addition to the above, the findings point out that applying aesthetics as a major component of the environment requires its protection and conservation of the aesthetics of the natural environment, cultural landscapes, and (non-art) objects in general that make up our everyday environment. Yuriko (2002) expresses this sentiment to which reference is made in the Review. By extension, the aesthetic potentials of the entire environment, as are evident in forests, rivers, mountains, recreation centres, etc., need to be protected to appeal to the emotional responses of man. This is pointed out by the findings that without the conscious effort to integrate more or less appropriate aesthetic responses or better aesthetic judgments about these environments, the appeal to have aesthetic considerations would seem to be of little use to environmental protection or decision-making.

Furthermore, different from Carlson (2003), Hettinger (2005) elaborates some responses concerning the natural instincts of man to recognize and appreciate particular objects when they strike the senses as a result of the propensity of environmental aesthetics being a field of philosophy, the findings from the field research showed otherwise. According to these environmental aestheticians this field of philosophy should form a core structural requirement for appreciating the Ghanaian environment at large in order to understand the intrinsic qualities of objects of beauty. It has been realized that aesthetics has been largely marginalized in several field of philosophy. A vast majority of philosophers

enter their profession with little or no knowledge of how to apply the natural laws of beauty to their areas of specialization. As a result, philosophers generally either ignore issues of art and aesthetics or think of them as having little or no bearing on the central concerns of their discipline. Most systematic philosophers pass entire careers without ever turning their attention to questions of art or beauty. The researcher's findings came out with the deductions that probably there is a gross lack of interest in aesthetics. This related absence of aesthetics from the pages of the most widely read and prestigious personalities who find themselves in positions of policy-making, administration, education, religion and politics become woefully incapable in applying aesthetic knowledge and skills in their respective sectors for the management of the environment. Meanwhile aesthetics has a *de facto* standing in the cultural landscape and physical environment of mankind, but its marginalization always begets marginalization.

What is more, the pragmatic advantages of defending the significance of aesthetics or objects of beauty for the protection of the natural as well as the built environments to ensure the continuity of life of all living organisms on the earth is another concordance between the Literature Review and the research findings. As Wright (1993) is referred to in the Review, man has actually altered the pattern of the natural vegetation, which has changed the composition of the surface of the earth, thereby destroying the aesthetic nature of the environment, it has affected the aesthetic consciousness of mankind. To this effect, the findings

from the field indicate that pollution in every form, desertification, degradation and so on have resulted in the continual depletion of the ozone layer, spread of communicable diseases upsurge of natural disasters, famine, etc, shortening the life span of man and other living organisms.

A comparative analysis between aesthetics and science as indicated by the research findings shows that aesthetics is part of value theory, and if the theory of value is philosophically important, then aesthetics is equally philosophically important. It is however, essential to state that one cannot aspire to understand the nature of value without critically paying attention to aesthetic value of things.

As has been advocated by Barrow (1997), and already referred to, in the Literature Review, that environmental impact assessment requires an in-depth knowledge of aesthetics, and designers must be recruited to provide such services, the field research has rather found out that the artist (or more technically put, the aesthetician) in Ghana is not very recognized as a vital force in economic growth including protection of the environment. This is particularly because of the prevailing negative attitude towards the artistic field of study and the artists themselves that the discipline was reserved for people who could not pursue more difficult discipline like Engineering, Mathematics and the Science. Nevertheless, the findings have pointed out that the issue of aesthetics is

essentially a prerequisite in every aspect of a nation's development. This means that the physical environment within which all these sectors operate cannot be left out when it requires aesthetic attention.

Having carefully and critically noted the differences and similarities in the review of related literature and the field research, the researcher would like to conclude by imploring readers, especially all stakeholders in environmental issues, to take cognizance of the relevance of aesthetics, cultural and social traditions in the protection of the natural as well as the built environment for the development of all societies, particularly Ghana. It is important to note that aesthetic knowledge permeates all aspects of humanity, and to appreciate the remarkable position of aesthetics in the protection of the environment, one should endeavour to sharpen one's emotional responses in aesthetics and pragmatically integrate it with scientific technology in managing the environment for posterity. Aesthetics is a life-giving force. It is a vital force in perpetuating life. Central to these observations is the recognition of the cultural and social traditions of the indigenous society of Ghana to protect the aesthetic aspect of the environment which embodies the vital life required by man for survival.

Through observations, analyses and interpretations, the above indications have brought to the fore the correlation that exists between the research findings and

the Review of Related Literature on the topical issues that particularly address the factors that are inimical to safety and protection of the aesthetic aspects of the cultural landscape as well as the physical environment.

7.4 RESEARCH FINDINGS: A CONTRIBUTION TO KNOWLEDGE

Reviewing thoroughly and extensively on what some previous writers have espoused on topics that are in consonance with aesthetics and the environment, it appears that no one seems to have tackled the topic: ***"AESTHETIC IMPACT OF GHANAIAN SOCIO-CULTURAL PRACTICES ON THE ENVIRONMENT AND ITS PROTECTION IN GHANA".*** For this reason, it appears the entire research, has been a contribution to knowledge.

Secondly, before embarking on this research, there appeared to be scanty or virtually no documented information on the employment of aesthetics, cultural and social traditions to protect the environment, especially in Ghana. Since this dissertation seems to be the trail-blazer on the impact of aesthetics as well as socio-cultural practices of Ghanaians on environmental protection, it is the fervent wish of the researcher to indicate that it might be the first informative, educative material which shall inform environmentalists, scholars, researchers, policy-makers, planners, politicians, administrators, business persons, industrialists and the entire public about the aesthetic aspects of the environment. This buttresses the fact that the environment as a whole is an

'object' of beauty with elements and principles of aesthetics that need to be conserved using pragmatic *aesthetic* means.

The above contribution has been largely validated with the various aesthetic activities such as garden art, landscaping, scenic tree planting, incinerators, recreational systems, modern architecture, etc. that can be harnessed for the protection of the environment from its ecological doldrums.

As another contribution to knowledge, the dissertation has indicated the numerous negative practices by man that are taken for granted by Ghanaians, in particular, but are inimical to the safety and beauty of the environment. Such negative human activities come in the form of destruction of the vegetation around water sources, unscientific farming methods, indiscriminate dumping of solid and hazardous wastes, logging, sand winning, stone quarrying, defecating along beaches, erecting structures on unauthorized land, group hunting by bush burning etc. By extension, the researcher noted that these problems emanated from ignorance of most Ghanaians about the beauty of the environment as a result of lack of proper education.

Furthermore, as a contribution to knowledge, the researcher has shown in the dissertation that hitherto conservation and protection of the environment were looked at solely from the scientific point of view. But the present researcher has

indicated that aesthetic aspects of the Ghanaian environment are a good ground enough to protect the 'goods' and 'services' of the ecosystem for appreciation. In the same vein, the recommendation made by the researcher to integrate aesthetic knowledge, skill and technology with scientific knowledge to promote eco-tourism as well as enhancing the beauty of the environment is a cutting-edge for almost all societies. As pointed out severally throughout the dissertation, aesthetics seems to be one of the commonest experiences of man but it remains the most universal indications of man's intelligence and superior reasoning powers that form the basis of all civilizations. Also, as a contribution to knowledge, Chapter Three of this dissertation has vividly outlined the relationship that exists between indigenous Ghanaian views of aesthetics and the environment. This validates the fact that the term ***aesthetics*** does not belong to only the Western world as a branch of philosophy, but indigenous people of Africa, in general, and Ghanaians in particular, have their concept of aesthetics and how these ideas can be applied to the 'world' around them. Obviously, man becomes more conscious of himself and things around him through the use of aesthetic skills since the pre-historic period. This consciousness makes him function more effectively as well as becoming more aesthetically inclined in his daily endeavour.

Our contributions can also be seen in the proposals that roof-top gardens in modern architecture, high-rise buildings belonging to same family members,

organizations or fiends, and planting of endangered species which should be protected by stringent laws could be encouraged in Ghana. Also, reinstituting indigenous taboos and superstitions to protect the ecosystem such as rivers, forests, mountains, whole landscapes, etc. are some of the proposals that appeared to have contributed to knowledge in the dissertation.

Apparently, the entire research has dealt with a number of issues that address the impact of aesthetics as well as social and cultural traditions in protecting the natural and built environments in Ghana. The researcher is reliably convinced that if all the suggestions and recommendations stated in this dissertation are well followed in addressing all issues of environmental concern, the Ghanaian environment would be a more safer and beautiful place to live in .

7.5 Summary of the Thesis

Evidently, the adoption or conscious application of aesthetic elements, consistent ratification of cultural and social traditions, synthesis and relentless pursuit of technological advancements in artistic endeavour have contributed enormously to the beauty of the environment and its protection in Ghana. This has been the main focus of the research despite the contributions made by the Literature Review in setting the tone for this research. The relative gap between the praxis and discourse of the several attempts in addressing environmental issues has been filled by the research findings.

The entire study, however, has been largely substantiated and proved that aesthetics plays a significant role in environmental protection. In other words, it takes ***aesthetics*** to conserve the ***aesthetic*** aspects of the environment, be it natural or built. Aesthetic elements are naturally inherent in every natural resources as well as the cultural landscape of human beings.

It is obvious in the dissertation that aesthetics is an inseparable component of the environment. The importance of this aspect of the environment affects mankind physically, socially, morally, psychologically and emotionally. Without the environment there might be no existence of mankind. As indicated in the Background of the Study (Chapter One), if the environment is totally destroyed, man will also become extinct from the surface of the earth. Therefore, in this time and age there should be pragmatic policies, some of which are suggested in this dissertation, to promote visual quality of the environment as a whole.

The dissertation has revealed that since creation of the universe, there have been various forms of changes occurring on the surface of the earth altering the physical (aesthetic) outlook of the environment. These changes are in the form of both natural (ecological changes) and human-induced. The research findings indicate that man has caused major damage to the environment in the form of pollution, land degradation, deforestation, etc. The physical damage and the most absurd evidence is leaving the surface of the earth aesthetically unpleasant.

Several natural disasters such as flooding, bush fires, El Nino, famine, depletion of the ozone layer, etc. are partly brought about because of man's negligence to take care of the environment.

In another instance, the dissertation has drawn a mutual blend between indigenous African conception of aesthetics and how it relates to the environment. In so doing, the dissertation makes a clear correlation between the Western formulation of aesthetics and the modus operandi of Ghanaian indigenous aesthetic values. The underlying principles prevalent in both cases are beauty, taste, transcendence, good, sublime and the morally right. On the other hand aesthetics is not limited to the visual arts alone. In the African parlance, an object is pleasing to the eye if every aspect of it seems to be 'good'. In the same vein, a behaviour appears to be 'good' if one complies to societal norms and regulations. All these values are embedded in indigenous concept of aesthetics, which is further applied to the protection of the environment.

Obviously, indigenous African societies give much recognition to social and cultural traditions. In this dissertation, the researcher has espoused vividly the relationship between these values, which have aesthetics as their pivot, as well as the central role the environment plays in sustaining those values of the indigenous folk. This has revealed some elements embedded in African

aesthetics; views and values of indigenous aesthetics; and the concept and expression of African beauty.

The researcher has recognized that within the larger environment (i.e. the natural), human beings have created their own environment which impacts heavily on the world at large. This reveals the philosophical and ethical characteristics of human society and nature that have a direct influence on human health. Besides this, there is a great equilibrium between the natural environment and the artistic environment deliberately created by mankind. Consequently, this creation of man's own environment gives rise to aesthetic appreciation of the environment in relations to artistic visual elements present in every object found in the environment that need to be protected and conserved.

In addition to the above, Chapters Five and Six narrate the major activities by Ghanaians that impact negatively on the environment as well as those creations by mankind meant to sustain their livelihood as well as contributing to the promotion and enhancement of the aesthetic aspects of both natural and built environments. The negative effects include the destruction of water bodies, pollution, and degradation, solid and hazardous wastes, and some negative cultural practices. On the other hand, the aesthetic activities promoting the protection of the environment include such positive cultural and social traditions such as taboos protecting sacred groves, building of modern architecture, parks,

gardens, zoos, recreational systems, environmental art, landscaping, roof-top landscaping and so on. These findings corroborate the hypothesis that Ghanaian indigenous aesthetic considerations and good socio-cultural traditions contribute enormously to the protection of the environment in Ghana. Clearly, this forms the pivot around which the entire discussion of this study evolved.

Finally, this dissertation has discussed and provided valuable suggestions and recommendations that may further contribute to the protection of the environment as well as enhancing its aesthetic aspects to make the Ghana a much better place to live in.

7.6 Conclusions

The physical features that make up the visible environment, including land, water, vegetation and man-made features (i.e. buildings, artistic creations, roadways and structures) naturally possess some aesthetic qualities worth protecting from destruction. In a bid to create the awareness of the various ways the aesthetic aspects of the environment are being destroyed and how to reverse this unfortunate or alarming situation, this research set out to find out Ghanaians' negative activities that mar the aesthetics of the natural as well as the built environment. On the other hand, there are positive activities that equally protect the beauty of the environment and the research findings validate the hypothesis stated in the dissertation.

It has been established in this dissertation that aesthetic appreciation of the environment emerges as a result of the interplay of visual elements such as lines, colour, texture, shapes, mass, tone, etc., inherent in the environment, which evoke emotional and visual responses of humans rendering it philosophically as well as ethically right to draw a mutual equilibrium between aesthetics of the environment and the need to protect it.

Furthermore, as could be inferred from the discussions of the findings, it is obvious that the same human beings who are responsible for the destruction of the beauty of the environment through land degradation, coastal erosion, pollution of water bodies, deforestation, poor waste management, indoor/outdoor pollution, desertification, etc., are the agents who could develop pragmatic means to solve the problem. Apparently, some of the positive aesthetics indicated in the findings included positive socio-cultural practices to safeguard the environment (such as taboos prohibiting people from touching some parts of the environment, taboos against the eating of certain animal and plant species, ban on fishing and farming during certain seasons, ban on noise making during the celebration of certain rituals, etc.); landscape architecture and garden art; zoos; rooftop gardens; modern architecture; visual communication activities; etc. Obviously, without these conscious efforts by humans to put these measures in place to protect the visual quality of the beautiful environment in

which we live, without which man's continuous existence on planet earth would be but a mirage.

However, as indicated in this work, many suggestions and recommendations have been offered to reverse this threatening phenomenon. It is, therefore, the hope of the researcher that if all those suggestions and recommendations are faithfully applied, our natural as well as the built environments would be a much safer and beautiful place to live in. Safety and beauty that will eventually reflect more positively in all facets of the economy of all societies. This emphasizes the fact that aesthetic considerations and socio-cultural practices of indigenous Ghanaians impact positively on the protection of the environment in Ghana thereby enhancing its visual quality. By extension, the contribution of this research to knowledge will help fill the gap between the praxis and discourse of scientific attempts to manage environmental problems in the world at large.

7.7 Recommendations

Having discussed thoroughly the major threats to the environment and its protection as well as indicating some aesthetic considerations in addition to the cultural and social traditions in relation to environmental concerns, the following essential suggestions and recommendations which will enhance the visual and physical aspects of the environment in which we live are offered.

Firstly, it is suggested that since it is a natural tendency of every rational human being to consciously or unconsciously appreciate objects with great 'beauty', it is essential to espouse here that a good sense of aesthetics should form part of every society's code of ethics. Ethics that can be nurtured as character traits through the various developmental stages of every individual, so that as human beings grow up appreciating good and aesthetically pleasing objects and eschewing those that are unsightly would be part of the behavioural pattern of everybody. If this is properly achieved the natural environment as well as the built environment would be protected from degradation.

In the same breath, the teaching of Environmental Science as a course in primary schools should be properly enhanced and enforced by the Ministry of Education. Aside from this, the aesthetic aspects of the environment should be integrated into the programmes and be made more interesting and practicable. This may probably make it much easier for even children (pupils) in pre-schools and lower primary to appreciate the need to keep the environment clean, thereby enhancing its aesthetic quality as well as protecting it from destruction.

Stakeholders involved in issues concerning the safety of the environment must endeavour to run more educational programmes in the form of workshops seminars and conferences in our communities involving the young and old, rich and poor, educated and uneducated, and the able bodies and disables. These

programmes should be designed to suit the environmental needs of these groups of people mentioned since no individual person can do without the environment because it should be regarded as the 'community to which we all belong'. Not only should the programmes be drawn to meet the individuals' needs, but they should also meet the 'needs' of the environment emphasising on the scientific implications as well as the aesthetic considerations.

By extension, the researcher seeks to suggest that since manufacturing companies, the agricultural sector, mining companies, construction firms and so on are major stakeholders in issues concerning the environment regular and periodic educational programmes should be organized to make them more knowledgeable about the aesthetic implications of their activities on the environment.

As the researcher has already espoused, education is a very powerful tool that not only changes the mindset of people but it helps in enriching the knowledge base of nations as well as guiding or controlling the way people act. Unfortunately, not many people cultivate the habit and interest in reading to gain extra knowledge in our part of the world. However, television has become a major medium through which information can be disseminated easily. In Ghana, for instance, more people watch programmes on television than read books for information. In this vein, the researcher suggests that series of educative

programmes on issues concerning the aesthetic aspects of the environment and how to protect it should be run on the various television stations in our society. On the other hand, the media houses themselves could take it up as a challenge to embark upon series of expedition to go round our communities to capture scenes on the state of the environment, the damage that is being caused and the various activities that are causing the havoc. Even though humans as we are, we become attuned to and 'comfortable' with a particular problem if we live with it for a protracted length of time, constant sensitization often brings about changes. Television is such a powerful tool that if those same problems are shown to us on air we become alarmed and take actions in addressing those issues.

Additionally, the researcher seeks to suggest that the ongoing campaign by government, NGOs, and other stakeholders on tree-planting should be well structured in such a way that the aesthetic perspective would be largely promoted. Currently, the tree-planting exercise being undertaken by Friends of Rivers and Water Bodies, an NGO, to plant trees along some water bodies only addresses the scientific aspect of the environmental problem which is not totally effective. However, if the aesthetic considerations are integrated, such as adding scenic views, recreational grounds, resorts, etc. people would appreciate the beauty and uphold the exercise in high esteem. Aside from this, the Greening Ghana Project undertaken by the NPP administration should not be limited to only Accra but all over the country. District and municipal assemblies should be

involved in the 'greening' exercise with much emphasis on the artistic aspects. This implies that policy makers should engage the services of artists, environmentalists, town planners and horticulturists in a project like this.

By extension, the government should endeavour, with the help of environmentalists, to identify certain tree species which should be declared endangered so that these trees be planted all over Ghana, not anyhow but in an aesthetically pleasing arrangement, and anyone who cuts down any such tree species be dealt with by the law.

Also, there should be a conscious effort or policies that should devise strategies to intensify replanting of degraded land caused whether through soil erosion, mining activities, quarrying, soil mining or deforestation. The nation's yearly budget for reforestation should be increased and government of Ghana must support non-governmental organizations (NGO's) working in the environment and forestry sectors.

Policy makers should ensure that law enforcement agencies become more ruthless with people who indulge in practices that destroy the environment because without the environment human beings and all other living things cannot survive. So the care for the environment should be given a higher priority. Individuals who would violate laws set down to protect the

environment should be given stiffer punishments than those who are involved in theft cases, rape or even libel. The environment and its significance to man are being taken for granted. Therefore, stiffer punishments would deter others from causing harm to the environment. However, laws and regulations that must be instituted should become a form of convention or enshrined in our traditions so that every individual of our society would become used to them from a tender age.

Since some of the critical issues raised in relation to the research findings fall under the sentimental purview of the researcher, it is essential to indicate that the sustainable management of the environment depends largely on how we as individuals see it from the aesthetic perspective and act appropriately to manage it. In view of this the researcher suggests that large billboards should be displayed in every community at vantage points to address environmental issues like the manner in which several billboards are created to advertise alcoholic beverages, beauty care products, campaign against AIDs, and so on. In this way, several people would become fully aware of the state of the environment and how to integrate cultural and social traditions as well as scientific strategies to enhance the aesthetic aspects of the entire environment (both natural and built environments).

Furthermore, we recommend that Ghanaians should uphold in higher esteem most of our cultural practices that are very practical and seek to address environmental issues even though their *modus operandi* may be shrouded in superstitions. Some of these could be the strict observance of the ban on fishing or farming during certain seasons, taboo against fishing from certain water bodies, taboo restricting people from harvesting or cutting down trees from certain sacred groves, etc. Countries such as Japan, India, Kenya, Chile and China have successfully used taboos and traditional beliefs, binding on every individual member of such nations, to protect some of their wetlands, mountains, biodiversity, rivers, forests etc. from degradation or pollution. Even though some of these beliefs exist in some parts of Ghana they are not upheld strongly by most people. We can, however, consciously imbibe our traditional beliefs in the totality of our way of life and view the environment as sacred and venerate it accordingly.

Aesthetic appreciation of objects of beauty gradually develops and becomes heightened through constant exposure of the senses to aesthetically appreciable scenes. In view of this, the researcher suggests that environmentalists and all those who deal with issues concerning the environment should produce films, documentaries, still photographs and children's animations on various issues about the environment. Features in these films should address both positive and negative aspects of environmental issues. However, much emphasis should be

laid on the aesthetic aspects that would whip up the interests of every individual. Also, the new generation kids of this century have become lovers of computer games as a result of the modern technology prevalent in our society. Therefore, several computer games could be developed by computer scientists in collaboration with specialists in animation to address environmental issues, which would start indoctrinating kids from tender ages as to how to care for the environment as well as enhance its beauty for recreation.

Apart from the above suggestions, the researcher recommends that government should promulgate laws to prevent unscientific methods of farming, especially cultivating land along river bodies for agricultural purposes, since this practice of farming and cutting of trees along banks of river bodies for fuel accelerates the drying up of those water bodies, rendering them aesthetically unpleasant as well as altering the entire ecosystem. Stringent laws can help reduce this menace and bring back the beauty of these natural sites.

To control and prevent environmental pollution as a result of indiscriminate dumping of refuse or solid waste in our surroundings, the researcher suggests that in addition to numerous bins that should be placed at every vantage point in our society large concrete dumping bins should be constructed by district and municipal assemblies to serve as collection points that should be emptied regularly. These concrete bins should be constructed very high with steps that

lead to the opening at the top. The bins should be rented to manufacturing industries that could contract their advertising agencies, which could make these bins aesthetically pleasing to the eyes, by advertising their products nicely to attract people. Even some of the advertisements could focus on the environment itself. The surrounding of these bins should have well trimmed lawns to prevent people from littering around the bins. By extension, large furnaces could be built in addition to the bins that could be used in burning these solid wastes. Integrating aesthetics with scientific technology, heat generated from the burning of the solid waste could be channeled to supply power to some manufacturing companies, thereby reducing pressure on the hydroelectricity. In order to prevent the fumes that may come out from the furnace to pose another environmental hazard, the fume could be converted to vapour that may help in the cooling system of the furnace. When all these measures are put in place individuals should be well educated not to throw rubbish away indiscriminately causing an eye-sore in the environment.

Posters with strong messages should be designed to educate the public on the proper way to dispose of household hazardous waste; how to deal with waste in relation to reduction, re-use and recycling of products that end up as ordinary garbage. These posters should target different sections of our society whose activities may impact negatively on the environment. Some of these target groups could be school children, the environmental drivers, indoor workers,

outdoor workers, farmers, fishermen, miners, tourists, etc. As has been espoused throughout the dissertation, addressing these environmental issues should lay much emphasis on the aesthetic considerations. A lot of campaigns especially by EPA, have already been going on concerning the scientific implications of environmental degradation but this effort seems not to be very effective. However, when we integrate the aesthetic concerns with the scientific methods we shall achieve successful results.

The researcher further recommends that most of our natural sites which are experiencing degradations and pollution could be developed into recreation centers full of aesthetically pleasing and scenic views with endangered tree species, flower or grass planted to give such sites panoramic view. River bodies that are drying up or being choked with solid wastes could be dredged and allowed free flow of water which could be used for boating as a form of recreation.

Drains and gutters that were constructed long ago and left uncovered making it easier for people to dispose of waste into them indiscriminately could be renovated and covered to prevent carrier bags and other forms of solid wastes from choking them. Aesthetically pleasing lawns and paving should be done along drains interspersed with garden chairs, fountains and gazebos to serve as relaxing areas for inhabitants.

In relation to the built environment where there is a widespread problem of unplanned dwelling places in some of our major towns, the researcher suggests that government can relocate these people at a well-planned location. Property taxes, land polls and other levies could be increased to enable government to build well-planned residential estates for communities to prevent individuals from building as if the only thing needed was a house and not a home, to the extent that people wittingly purchase building plots meant for road construction and other infrastructure, meant to enhance the aesthetics of the environment.

To enhance the beauty of the environment as well as save the natural environment, the researcher sentimentally suggests that Ghanaians should be willing to build high-rise (skyscrapers) houses in order to economize the indiscriminate use of land. Same families, organizations or institutions could be encouraged to build one or more floors on top of each other on the same plot of land to enhance spatial planning mostly in our urban centres. Skyscrapers not only make the built environment aesthetically appealing but also conserve much needed space as well as facilitating identification of edifices and locations.

It is essential to suggest that estate developers, town and country planners, architects, city engineers and all those who are involved in planning the built environment should endeavour to incorporate in their preliminary designs all requirements that address environmental needs as well as enhancing the

aesthetic aspects of the entire environment. Contractors should be compelled to strictly adhere to these considerations and default should call for prosecution. Aside from these, roof-top gardens should be encouraged and integrated in the design of every building in Ghana. In an aerial view the roof-top gardens add beauty to the built environment as well as helping the entire eco-system, reducing the adverse effects of man's activities on the ozone layers. Countries such as Japan and Korea have successfully used roof-top gardens to address most of their environmental problems such as irregular rainfall patterns and removal of carbon dioxide from the atmosphere. There should be the built environment policies that address aesthetic and environmental issues including preservation of ridges, water source development, design standards, and guidelines for the design of activity centres, preservation of cultural sites as well as protection and enhancement of view corridors.

As indicated in Chapter Three, not all environmental problems are human-induced. However, the researcher suggests that those problems could be well examined and aesthetics integrated with technological methods such as land defence, sea defence, ridge, contours, sand banks and so on could be used to deal with such natural problems like gully erosion, sea erosion, sheet erosion, etc.

The researcher seeks also to suggest that road and other construction activities should have guidelines controlling their activities. Prior to construction, all land

resources to be preserved within the work area should be identified. Methods for protection of features to be preserved within authorized work area including trees, shrubs, vines, grasses, ground cover, landscape features, fish and wildlife, soil, historical, and archeological and cultural resources construction activities should be confined to areas defined by specifications and drawings.

Another suggestion is that environmental clubs could be formed whose main objectives and activities be focused on the aesthetic aspects of the natural environment, as well as harnessing essential knowledge from the cultural and social traditions of our indigenous folk to protect the environment from degradation. Besides, every community which has a development association should have, as part of its main activities, programmes that address issues concerning the aesthetic aspects of the environment. Environmental clubs intended to address environmental issues should focus mainly on the youth who have the energy, zeal and mental capabilities to learn new things and apply them to the betterment of their life.

In the nutshell, the above suggestions and recommendations have been given to fill the lacunae of the several attempts by government policies scientific methods and social commentaries by governments, NGOs, environmentalists, industrialists and other stakeholders on the safety of the natural as well as the built environment. It is however, the hope of the researcher that if all these

suggestions and recommendations are adhered to and integrated with the scientific strategies that are already ongoing the environment will be a safer place to live, work and enjoy its aesthetic benefits to make *homo sapiens* a more happier species among all living organisms.

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