University of Ghana http://ugspace.ug.edu.gh

ENVIRONMENTAL EDUCATION AND TRAINING -

A STUDY OF THE ABOKOBI AFFORESTATION PROGRAMME

by

Salome O. Essuman

A research dissertation submitted to the graduate centre, University of Ghana, Legon, in partial fulfillment of the requirements for the degree of:

Master of Arts (M.A.) in Adult Education

UNIVERSITY OF GHANA LIBRARY

December 1998

University of Ghana http://ugspace.ug.edu.gh



University of Ghana http://ugspace.ug.edu.gh

DECLARATION

I hereby declare that this study is my original piece of research conducted between July, 1998 - September, 1998 under the supervision of Professor Kobina Asiedu and Mr. I. W. Parry, both of the Institute of Adult Education, University of Ghana.

In places where references of other people's work have been cited or their views adopted, full acknowledgement has been given. No part of this dissertation has either been presented in whole or in part to any other institution for any award.

.....
Salome O. Essuman

.....
Supervisor

.....
Supervisor

UNIVERSITY OF GHANA LIBRARY

University of Ghana http://ugspace.ug.edu.gh

ACKNOWLEDGEMENTS

I wish to express my sincere gratitude to all those who in diverse ways contributed to the success of this study. I would particularly like to express my indebtedness to Professor K. Asiedu, Mr. I. W. Parry and Mr. Samuel Badu-Nyarko for their general supervision, editorial comments, advice and the encouragement, which spurred me on to the conclusion of the study.

My gratitude extends to Dr. George Manful of EPA, Miss Adeline Acquah-Adubah, staff of FOE and residents at Abokobi not forgetting Mr. G.M.D. Wristberg, (the animator) for their time and efforts expended in arranging for the collection of data for the study.

I am grateful to Mr. Isaac K. E. Annan for proof-reading the final draft of the dissertation.

I am also grateful to Nana Kow Appiah for typing the report of the study.

My gratitude extends to the director, and all IAE staff whose general encouragement and support spurred me on to go through my course of study.

UNIVERSITY OF GHANA LIBRARY

University of Ghana http://ugspace.ug.edu.gh

DEDICATION

I dedicate this work to my dear husband

and children for their support and understanding

during the period of my studies.

UNIVERSITY OF GHANA LIBRARY

University of Ghana http://ugspace.ug.edu.gh

Table of Contents

		Page
Declaration	:	ii
Acknowledgement	:	iii
Dedication	:	iv
Table of Contents	:	v
Abstract	:	x

CHAPTER ONE

1.0	Introduction	1
1.1	Background to the Study	1
1.1.1	The Nature and Causes of Environmental Issues	1
1.1.2	The importance of the Forest	4
1.1.3	Forest Conservation	6
1.1.4	The Abokobi Project	9
1.2	Statement of the Problem	11
1.3	Research Objectives	12
1.4	Significance of Study	12
1.5	Conceptual Framework	13
1.6	Definition of Term	18

University of Ghana http://ugspace.ug.edu.gh

CHAPTER TWO

2.0 Literature Review 19

2.1 The Concept of the Environment 19

2.2 Environmental Degradation (Deforestation) 22

2.2.1 Causes of Deforestation 23

2.2.2 Population, Resources and the Environment 27

2.2.3 Cost and Effect of Degradation 28

2.3 Environmental Education and Training 29

2.4 Attitudinal Change 33

CHAPTER THREE

3.0 Research Methodology 39

3.1 Research Design 39

3.1.1 Personal Grounding 39

3.2 Population 40

3.3 Sample 40

3.4 Instruments 41

3.5 Field Work 42

3.6 Limitations / Problems Encountered 45

3.7 Data Analysis 46

3.8 Validity and Reliability 46

University of Ghana http://ugspace.ug.edu.gh

CHAPTER FOUR

4.0 Presentation and Analysis of Data from Respondents Who Participated in The Project. 48

4.1 Demographic Characteristics-Age Distribution of Respondents. 48

4.2 Sex of Respondents 49

4.3 Educational Background of Respondents 50

4.4 Occupation of Respondents 52

4.5 Awareness of Environmental Degradation 52

4.6 Media Support for Awareness 56

4.7 Pre-Attitudes of Respondents Towards the Environment 58

4.8 Delivery of Education and Training 60

4.9 Evidence of Attitudinal Change 64

4.10 Benefits of The Programme 69

4.11 Institutional Analysis 71

4.12 Training at Abokobi 72

CHAPTER FIVE

5.0 Discussions: 74

5.1 Method of Education and Training 74

University of Ghana http://ugspace.ug.edu.gh

5.2 Influence of Education on Life Style (Attitude) of Respondents 77

5.3 Effective Management / Sustenance of Project 80

CHAPTER SIX

6.0 Summary, Conclusion and Recommendations 83

Bibliography 90

Appendix A Area Map 94
Appendix B Unstructured Interview Guide For focused Group Respondents 95
Appendix C Sample of Responses 97
Appendix D Questionnaire for the Organisation Charged with Environmental Education and Training (EET) 106

University of Ghana http://ugspace.ug.edu.gh

LIST OF TABLES

Table 1. Age Distribution of Respondents 49

Table 2. Educational Background of Respondents 51

Table 3. Occupation of Respondents 52

Table 4. Areas of degradation of most concern to respondents 56

Table 5. Relevance / Effectiveness of Methods 63

Table 6. Attitudinal Change towards the forest 66

Table 7. Punishment for Negative Attitudes 68

University of Ghana http://ugspace.ug.edu.gh

Abstract

This is a study on environmental education and training carried out at Abokobi village for an afforestation programme on the hillsides of the Betebete hills.

This study specifically set out to find out;

1. The methods of teaching and training that were used in imparting Knowledge, creating awareness and giving skills to the participants.
2. The extent of impact of the programme on the lifestyle (i.e. attitudinal change) of the people.
3. How the change has helped in managing the environment.

A sample size of fifty-two respondents was selected through purposive sampling technique from members of the Abokobi - "Friends of the Earth" branch who participated in the programme. They were put in five groups.

A focused group interview schedule method was used in collecting data from them. In addition a questionnaire and an interview were, used to collect data from the staff at "FOE" office, the organisation that delivered the education and training.

The major finding of the study was that group discussions, workshops and field demonstration methods were some of the techniques adopted in education respondents.

These methods were very appropriate and well embraced since they portrayed a participatory and interactive manner of teaching and learning.

UNIVERSITY LIBRARY

University of Ghana http://ugspace.ug.edu.gh

It was also discovered that the get – involved practical approach of training respondents to acquire skill has empowered them with problem – solving capacity and a self-reliant attitude towards the project.

These human capacity development skills have brought a change in their attitudes towards the environment and it is believed that it would go a long way in sustaining the project.

Another major finding too was that knowledge transfer through pictures, posters, visual aids and the like have positive effect in educating people with low educational background reinforcing effect of attitude change.

The study concludes by recommending that similar educational techniques be adopted for most of our rural dwellers who are experiencing deforestation problems.

With trees and forest products as the main source of energy for most rural dwellers, afforestation programmes of this sort should be intensified throughout the country to address the desertification issue approaching the northern sector and the savannah zones.

University of Ghana http://ugspace.ug.edu.gh

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND TO THE STUDY:

1.1.1 The Nature and Causes of Environmental Issues:

One of the challenges facing human society today is the ever-increasing deplorable state of the earth's environment. Environmental development to a large extent has social, economic and cultural factors at its root.

The major environmental problems facing mankind are problems of ozone depletion, natural resource exhaustion (including deforestation) and the "green house" effect (excess carbon dioxide in the atmosphere). All these have arisen as a result of the blind pursuit of economic growth at all costs fuelled primarily by rapid consumer expectation and driven by unquestioning faith in science and technology (Field, 1991). At individual and group levels, most people are seen to have a care free attitude towards the environment, primarily in values, attitudes and behaviours (Acquah, 1997). Attempts to solve these environmental issues using various scientific methods seem to fall back on the same methods that created them. Since adults are the most users of the environment and are the decision-makers, it is imperative that they understand how the environment functions to help solve the problems.

Man, the dominant species in the environment in his early existence lived harmoniously with nature but advance in his cultural evolution seems to have had a greater impact on his environment than previous surroundings.

University of Ghana http://ugspace.ug.edu.gh

For instance, as hunting and gathering gave way to herding, agriculture, industrialisation and increased technological complexity, man seemed to have lost touch with the magnitude of his effect on the surroundings (Wagner, 1971).

The environment which consists of all natural resources such as land and all that it holds like plants, animals, the soil, atmosphere, water bodies and many more, together forms a network of interrelationships and interactions with man. This form of interaction ensures that the quality of life, which people enjoy, is dependent to a large extent on the use to which these resources are put. For example, if the rains, trees, the soils, underground waters and surface waters interact in a way such that there is sufficiency of each resource, then at any moment the soil will hold sufficient water for agriculture and food production. The water will percolate freely into underground catchment areas, which eventually will replenish the springs, lakes and rivers and other water bodies for water supply. The excess carbon dioxide in the atmosphere would also be replenished by oxygen from the plants all for a harmonious co-existence.

Unfortunately, however, many human activities and infrastructural development have not taken into account the balance in nature, which sustains the ingenuity of the environment. As such, the harmful wastes are in quantities, which seriously disturb the balanced state (the ecosystem). Several waste products including arsenic gases (poisonous gases), carbon monoxide, sulphur dioxide and fine dust particles are thrown into

University of Ghana http://ugspace.ug.edu.gh

the atmosphere causing air pollution. Industrial waste such as dyes and other chemicals are also thrown into water bodies and on land causing severe damage to the environment.

Agricultural activities currently being practised are responsible for a significant proportion of deforestation and desertification of the forests. The farming methods over exploit the land whilst the use of crude land clearing practices such as the slash and burn of forests and grasslands seriously degrade the land.

The major factors, which underlie these practices that degrade the environment, have been associated with rapid population growth, poverty, income distribution, gender issues and management policies. Decisions taken at local, national and international levels, most times are without adequate consideration of crucial environmental imperatives, lack of accurate information, sound education and appropriate training. All these have contributed to the negative results affecting the environment (UNESCO-ENVED, 1977).

University of Ghana http://ugspace.ug.edu.gh

1.1.2 The Importance Of The Forest

As a result of the changes in our physical environment, coupled with the impact on human well being, several international conferences have been drawn together to deliberate on the importance of the facts in promoting sustained ecosystem across the world.

The first of such conferences was held in June 1972 at Stockholm with the theme "Human Environment". The general consensus was that environmental problems were common to most nations and were inter-linked in nature, across national frontiers. The issues therefore were to be addressed appropriately. Subsequent conferences were also held in 1975 at Belgrade, Tbilisi in 1977 and Rio de Janeiro in 1992. They all reinforced the fact that environmental issues were the greatest source of fear and hopelessness in our contemporary world (UNESCO – ENVED, 1977).

On the whole, the most critical of the issues was the destruction of tropical rainforests. This is because there are indirect consequences for the whole of mankind but direct injury to the people who live in or on the periphery of the forests. Land is a treasure worth more than oil or gold because with the latter only a few individuals often control them and benefit from them; but the land is wealth that is available to many who hold it in high esteem. The forests and forestry have very important environmental linkages to man. They are linked to climate patterns, (both micro-climate and macro-

University of Ghana http://ugspace.ug.edu.gh

climate), water and soil resources, genetic resources of plants and animals and to food production and food security.

Forests, forestry and wildlife are again important to the economic and socio-cultural environment of local communities and the nation at large. In the first place, the forests and trees form a sort of canopy reducing wind erosion and stabilizing soils against water erosion and loss of soil fertility. The forests provide a wide range of useful products for people living in and around them. Even people living far away from forests in cities, towns and villages rely on the forest for building materials, food and other products. The trees are felled mainly for timber and fuelwood. Other products such as fibres, resins, gums, dyes, oil, cellulose, thatch and grass, natural insecticides and many more materials are obtained from the forests.

Foods such as fruits, vegetables, mushrooms, nuts, honey, spices and meat are also obtained from the forest. In Africa and particularly in Ghana, for example, the forests are important source of animal protein for many families. Also in Africa, traditional and modern medicines, which originate from plants in the rain forests are used in the treatment of many diseases including malaria, hepatitis, infections and injuries (Wagner, 1977).

Tropical rain forests contribute to the maintenance and purification of water bodies especially during rainfall. Climatic patterns of wet and dry

University of Ghana http://ugspace.ug.edu.gh

seasons and the purification of the atmosphere is another essential contribution. The forests support other plants and animals essential to humanity. Last but not the least is the eco-tourism that rainforests offer a nation in these modern times. The spectacular travel destinations for tourists provide income for both governments and the local people in those areas.

In spite of all these benefits that man derives from the forests, his activities are causing great harm to it daily and ultimately to the environment. Exploitation of the forests for commercial purposes is the major underlying factor responsible for deforestation in the developing nations. Activities such as logging and lumbering, primitive agricultural practices, establishment of new settlements or farmlands, bush burning and land clearing, large-scale surface mineral (gold) mining, overgrazing and many more are contributing to the environmental problems of the land (Acquah, 1997).

1.1.3 Forest Conservation

Although decision-makers and environmentalists have put forth policies, legislations and regulations towards forest management, governments in most Third World countries look upon the commercial exploitations of the forests as sources of income for their people. They forget the long-term effect after allowing the export of the raw natural resources.



University of Ghana http://ugspace.ug.edu.gh

There are numerous illegal practices engaged in by indigenous tribal communities with foreign businessmen for the exploitation of resources. In Ghana, such illegal practices have compelled government to set up the National Environmental Policy Board and other boards to oversee the management and control of the forest. Regulations and Standards put in place include the Forests Ordinance (cap 157) which requires notification in the Gazette of the intention of the central government to create the area described in the notice as "Forest Reserve"; and appoint a Reserve Settlement Commissioner (RSC) to see to illegal clearing and illegal logging of the nation's forest (Laing, 1994).

There is also the forest Protection Decree, 1974 (NRCD 243 and amended by PNDC 142) that seeks to prosecute offences in felling, removal, destruction of trees or timber without written authority of the competent forestry authority. (Laing, 1994). These are among the policies made under the National Forest Policy, Game and Wildlife Conservation Policies and others.

Apart from these policies there are other management techniques, which have been put in place to conserve and protect the forest. They include the creation of forest plantations, agro forestry and a ban on the export of logs of some known timber species. According to the Ghana Forestry Project Preparation Report 58/87/CP – GHA 18, a national forest plantation estate of 590,000 hectares was proposed in the 1960's to plant trees. Planting commenced in 1968 with an annual programme of 5000

University of Ghana http://ugspace.ug.edu.gh

hectares. This was reviewed in 1978 with a targeted planting of 11,000 hectares per annum. This figure is still being quoted in the Public Investment Programme of 1988 – 1990 (Laing, 1994). To speed up this afforestation programme the forestry commission adopted a policy of fundamental importance to maintain and replenish tree cover on lands outside the reserved forests in the mid 1980's.

The agro forestry unit was established to aid and encourage farmers combine planting and management of trees with their crops. Even domestic animals were to be included for the joint production of fuel wood, fodder, food and protein for their own use. Measures to support this included short introductory courses in agro forestry run by the Agro forestry Unit in collaboration with the Institute of Renewable Natural Resources of the University of Science and Technology, Kumasi. The programme so far has attracted some para-statal organisations, private, commercial institutions, and non-governmental organisation (NGOs).

"Friends of the Earth" (FOE), a voluntary, environmental NGO is one such organisation that has patronised the programme. This organisation aims at an environmentally sustainable development, protection and conservation of Ghana's environment. It has been embarking upon several re-afforestation programmes in the country and one such programme is the Abokobi Afforestation Programme on which this study is based.

University of Ghana http://ugspace.ug.edu.gh

1.1.4 The Abokobi Project

Abokobi is a Ga village, which lies about 26 kilometres east of Accra and 4 kilometres off the Accra-Aburi road at Pantang hospital junction. It lies close to the Akwapim range, the Betebete hills. It has a population of 775 according to the 1984 population census. Some of its inhabitants dwell temporarily there and work in the city.

They are predominantly Ga speaking people with few Akans and Hausas. The village has a rural bank and a women's training centre built by the Presbyterian Church of Ghana. The inhabitants are mainly vegetable farmers, growing vegetables such as pepper, okro, tomatoes and garden eggs. Crops like cassava and maize are also grown.

It is the characteristic of many Ghanaian rural villages that forest trees are felled and used for domestic purposes such as charcoal and fuel wood without any intention of replanting new ones. This practice has resulted in many forest areas becoming bare and losing their natural outlook. Abokobi is one of such villages in Ghana facing similar problems.

In 1988, a faction of the community conceived the idea of replanting trees on the bare land of the village and mobilising other people for general clean-ups. They consulted "Friends of the Earth" for technical assistance and in 1991 the Abokobi branch of FOE was formed. The main aim of the programme at the time was to plant trees. With time the following objectives were also included;

University of Ghana http://ugspace.ug.edu.gh

i. To check soil erosions along the hillsides.

ii To restore the vegetation/tree cover of the land area to improve the micro climate. (Which is to serve as a mini forest.)

iii. To serve as woodlots which can be harvested on a sustainable base.

iv. To serve as demonstration to communities, the importance of trees and the preservation of the integrity of the environment.

These objectives were carried out through educational and training programmes organised in conjunction with officers from the forestry department at Amasaman. A twenty-acre land was acquired from the Presbyterian Church to plant trees such as mahogany, teak, cassia, eucalyptus, leucaena and rain trees. The programme was also supported with seedlings from the forestry department and occasional food aid and logistics from Africa 2000 Network, Adventist Development and Relief Agency (ADRA) and Catholic Relief Services (CRS).

As at 1994 ten acres of the land had been cleared and planted with 120 teak, 250 mahogany, 300 cassia and 200 cashew nuts. Presently, fruit trees such as mango trees and pineapple suckers have been incorporated into the project to generate some income for members. This is hoped to serve as an incentive for members and help sustain the programme.

The project has also experienced some set backs since its inception.

There have been two major fire outbreaks on the project site causing extensive damage to the trees. Secondly, the occasional food aid and logistics, which

University of Ghana http://ugspace.ug.edu.gh

members were from time to time enjoying, have been withdrawn. This has contributed to the decline of members and enthusiasm in the project. It has affected the continuous replanting of more trees on the rest of the land acquired.

1.2 Statement Of The Problem

In many Third World countries today, including Ghana, forest trees are known to be felled for fuel wood, charcoal, building construction and animal fodder indiscriminately. These activities, which have deforested the land coupled with the high rate of overgrazing, slash and burn agriculture and many other practices have contributed extensively to the deterioration of lands causing soil erosion, loss of biodiversity (other plants and animals) and changes in the climate pattern.

Again, in Ghana the low rainfall further compounds these problems over long periods of time and high temperatures creating harsh climates with frequent bush fires. The concern of environmentalists, scientists and decision-makers to sustain the environment especially the forests for future generations have called for a number of educational and training programmes. The aims of these have been to create awareness and equip the people with skills that will keep the integrity of the environment.

University of Ghana http://ugspace.ug.edu.gh

The problem, which this study seeks to address is, to what extent has the environmental education and training programme on deforestation affected the lifestyle of the Abokobi people?

1.3 Research Objectives

1) To find out the various methods employed by "FOE" in the delivery of environmental education and training to the participants at Abokobi.
2) To find out how effective and relevant the education and training programmes have been in the management of the environment.
3) To find out how relevant the programme has been to the needs of the participants.
4) To find out if the education offered has influenced the lifestyle (attitudes) of the people in any way.

1.4 Significance Of Study

In Ghana today, environmental issues seem to be the topic most discussed by politicians, scientists and the general public. The reason being that everyone is wondering what the future would be like as far as our immediate and distant environments are concerned considering the current attitudes and behaviours of our people.

1) It is hoped that the study will throw more light on efforts Non-Governmental Organisations are putting in to combat deforestation and environmental degradation in the nation.

University of Ghana http://ugspace.ug.edu.gh

2) The findings from the study would also help organisations involved in environmental education and training to replicate the methodology and delivery techniques in similar communities. The most effective strategies can be repeated in subsequent projects.

3) Policy-makers can use the findings to draw up methods of delivery of environmental education and improve upon what is already there.

4) The positive findings from this study can be used to plan similar projects in the community and its surroundings.

1.5 Conceptual Framework

Participation and Adult Learning

The idea of getting involved in an activity so that one's views and suggestions concerning a situation and its possible solutions are made known is termed as participation (Allen-Mills et al., 1995). Paulo Freire has stated in his "Pedagogy of the Oppressed" that learning implies rejection of any authoritarian pedagogy and the acceptance of participation of learners in their own education.

Freire's idea is that ordinary citizens hitherto excluded from processes and institutions that influence and shape their lives must be made to be partakers of their own future (Titmus, 1989). This is inseparably linked with the principle of participation. According to Muller (1993), participation is a teaching-learning process where learners come with their experiences and make new ones during the process. Individuals in such a situation are expected to be actively involved in



University of Ghana http://ugspace.ug.edu.gh

planning, executing and evaluating their own learning processes. Their programmes begin with an analysis of their own needs and interests, followed by harmonising interests and needs as structured by the state of the art. During the participatory period, a flexible atmosphere is created whereby learners work as a team. There is always an opportunity to first unlearn and then relearn. Individuals tend to be opened to self-criticisms whilst ready to support each other without becoming defensive. There is mutual respect and confidence built up in learners. Participation, therefore, focuses on awareness raising which is mostly achieved through dialogue as well as on knowledge and skills building. Knowledge-acquisition is effectively done through discussions whilst learning new skills or sharpening existing ones demand giving opportunity to practice on your own, or be in a peer group under the guidance of a facilitator. The results of participation are numerous. They include capacity building initiatives in many skills to strengthen the abilities of ordinary semi-literate/illiterate people to pursue their economic, social and political activities with greater effectiveness and improved outcomes.

Adult Learning

Learning, the ability of obtaining knowledge has theories governing it. According to Stephens in Titmus (1989), some of the emerging directions of learning theories can be grouped into three categories of learning methods.

These are: -

I. Expository Methods

University of Ghana http://ugspace.ug.edu.gh

This is where a source, be it a teacher, lecturer, writer or filmmaker organises a body of content and presents the content to the learner.

II. Direction Methods

This is where leaders, be they discussion leaders, simulation managers, group facilitators or programme instruction writers, organise and structure a process and the content so that those engaged in learning will arrive at some pre-determined objective(s).

III. Discovery Method

This is where learners engage in learning but the exact nature of what will be learned is not known at the outset because part of the process entails the posing of problems, questions and / or issues.

In participatory approach to adult learning, content, information and experience are selected and organised by the learners to explore the problems or issues. The primary objective behind this type of method is to engage in thinking. Though the reception of content is likely to occur as a by-product of the thinking process (Titmus, 1989). All the categories are acceptable but the difference is whether they are being used for adults or for children.

Knox (1977) has stated that adults are self-directed learners who learn when they can attach personal meaning to learning. They engage in learning purposely to modify performance. He continues to say that their main reasons for engaging

University of Ghana http://ugspace.ug.edu.gh

in a systematic and sustained learning activities and their anticipated use of the new learning relate to a coherent area of activity or to increase competence. The learning, which occurs varies in skills, attitude or behaviour. Adults' effort to learn skills are more likely to be successful if these efforts take into account the adults' condition and experience with similar skills. Whilst their efforts to change attitudes are more likely to be successful they take into account the adult's personality, dynamics and history of dealing with feelings.

Shrivastava (1989), writing on the methodological aspects of training adults thus stated some assumptions based on adult learning. He stated that,

1. **Learners themselves are rich resources for Learning**: - which implies that people in their lives gather a large body of knowledge and experience. These become real life foundations to build on current concerns.

2. **Learning cannot be imposed**: - This implies that adults are able to identify what they need to learn and do. Learning content must be derived from the community's needs and methods based on mutual respect between the learner and the trainer. Learning cannot be imposed on anyone but learners can be encouraged to learn.

3. **There is strength in learning together**: - This implies that people develop their creativity and power through working with others to identify and solve problems. Collectively, they recognise their knowledge, skills, interests and ability to act. Adults derive support from others in learning together. The

University of Ghana http://ugspace.ug.edu.gh

learning is an active process conducted in an atmosphere of openness and encouragement.

4. **People learn best by doing**: - According to him, something, which is heard, read or discussed, will not seem as real as something which people actually do. Learning which leads to immediate activity will not only produce concentrated results but will help the internalisation of the learning. Thus, much of skill learning can only be acquired by doing that is learning by practice.
5. **Success reinforces learning**: - This implies that when people succeed in an activity, their satisfaction gives them confidence and motivates them to become more involved. It is often best to begin with a small and immediate problem. If people can solve that then they are empowered to face other problems and can gradually expand their vision of the future. Learning is facilitated if it is a positive experience, if it leads to success. Learning takes place when learners are not under stress.

These and many more are the bases on which adult learning processes are expected to achieve their maximum benefit and impact. Indeed, achievement cannot be obtained unless it is modified by various characteristics of the individual learner and the learning context. These include the physical conditions (such as sensory impairment of vision, hearing and memory) social adjustment, socio-economic status, personal out look and many more.

University of Ghana http://ugspace.ug.edu.gh

1.6 Definition Of Term

Environmental Education and Training (EE & T)

It is a reoriented form of education which seeks to bring all people - pre-school, primary, secondary, tertiary, out of school, workers, politicians and many others into a working knowledge of the inter-relationships and interactions between man and his environments and an application of the causes and effects of environmental issues. Environmental Education and Training is required by all to help acquire techniques and skills that can be put into practice for the protection, management and conservation of the environment. EE & T embraces the participatory approach of problem solving methods.

University of Ghana http://ugspace.ug.edu.gh

CHAPTER TWO

2:0 Literature Review

This chapter sets out to review literature on the concept of environment as it relates to the natural world and man-made world. The causes of environmental problems with emphasis on deforestation and bush fires would also be reviewed. Population growth as major factor in natural resource depletion coupled with other environmental problems would be reviewed in the section. The chapter will seek to examine environmental education and training (EE&T) as a means by which several international conferences have recommended as one solution and by which many countries have also tried to use and achieve results. Some of the various non-formal methodologies adopted will be looked at. Finally, attitudinal change, as a concept for progress and development would be reviewed.

2:1 The Concept Of The Environment

In discussing environmental education it is expedient to consider the environment in its totality, that is, natural (biophysical) and man-made (socio-cultural), which refers to the environment made by man through his various activities. Man interacts with the natural environment and converts it into a human habitat.

The environment can be defined as being composed of the fundamental relationship that exists between the natural (biophysical) world and the man-made (socio-cultural world). Sill (1972) and Oduro-Mensah (1992), have defined the environment as consisting of all the external factors and influences affecting the life and development of an organism from conception until death. This

University of Ghana http://ugspace.ug.edu.gh

includes the physical, the chemical, biological, psychological and indeed everything that makes up the context in which the individual lives.

UNESCO has accepted the environment to mean:

> *Man as a social being organised and living within and through social groups of which he forms part and is able to take decisions which will transform his surroundings and consequently, he is responsible for the spoiling or improving this environment. He therefore must engage himself on both an individual and a collective basis to conserve, to use rationally and improve his environment, this being an indispensable condition for survival and a progressive improvement of the quality of life* (UNESCO / ENVED 7, 1997, P5).

Again, Lahiry (1985) has explained the word environment to mean more than our surroundings. In the context of living beings, he says that every organism lives in the midst of various living and non-living objects, happenings and influences, the aggregates of which form its environment. All organisms, plants and animals including man, depend upon their environment for their lives and their continuance. Every organism also tends to change and affect its surroundings in many ways, which may affect the organism itself. Thus, the activities of organisms to a large extent determine their environment. Man's physical environment is broadly classified into physical or abiotic (non-living) and biological or biotic (living) components.



University of Ghana http://ugspace.ug.edu.gh

The abiotic components include the climatic factors such as temperature, rainfall, wind, humidity and others, and the edaphic comprising the soil and the substratum (Lahiry,1985).

The biotic environment on the one hand, comprises the living things – plants and animals including man. Man depends on plants for all kinds of foods, medicine, timber and other forest products. It is an important fact to note that there exist an interaction and intervention between the biotic and the abiotic components to function as an ecosystem. The alteration of anyone component will ultimately affect all others (Lahiry, 1985). This implies that, in the environment, every component has a part to play in the operation and harmonious running of the various systems.

Naturally, human beings occupying the highest position at the centre of the environment give them the false notion that they can manipulate the environment to their own advantage without regard to the other components. This is an unfortunate attitude, which runs contrary to the laws of nature. Acquah (1997), thus, concludes that the environmental problems of any community are the products of the interplay of behaviours, values and attitudes of members of that community while the intractable environmental problems are the consequences of the manipulation of the environment by the people for the exploitation of its natural resource.

In most developing countries like Ghana, regardless of the region to which one belongs, the basic problem regarding the environment is one of poverty, which in

University of Ghana http://ugspace.ug.edu.gh

turn leads to deterioration and the depletion of natural resources. To eat and find shelter is the results of the destruction of the equilibria on which the preservation of ecosystems depends on, hence the natural resources that ensure survival (Wagner, 1971). In this context therefore, deforestation represents one of the paramount dangers of degradation. It has harmful consequences for both human population and for the preservation of flora and fauna.

2:2 Environmental Degradation – (Deforestation)

Environmental degradation is defined by Oppong, (1995) and Acquah, (1997) as the systematic reduction of resource potential over a long period of time by one or a combination of processes acting on the environment (The environment being land, water and the atmosphere). The process of desertification includes water erosion, soil leaching, wind erosion, reduction of vegetation, and loss of biodiversity. Reduction in the quality of vegetation, hardening of the ground or compaction (that is decline in soil fertility), overgrazing in savannah woodlands coupled with bushfires lit to promote new growth - (leads to a reduction or elimination of valuable browse species and nutritious grasses). All these are forms of degradation. An environmental plan of action drawn up in Ghana estimates that losses due to environmental degradation amounted to 4% of total GDP in 1997 (Acquah, 1997).

On the global scene, the world's forest, which covers an area of about 4,700 million hectares and forms about 32% of the total land area is known to be disappearing at a rate of 15 million hectares each year, (or 9,910 square miles

University of Ghana http://ugspace.ug.edu.gh

every 2 months or area size of Belgium) (Kulharni, 1991). Most of these losses are occurring in the humid parts of Africa, Asia and Latin America. The average annual rate of deforestation in tropical countries is estimated at 11 million hectares (Kulharni, 1991). Kulharni further describes the extent of the depletion as varying from country to country, but it has been estimated that if the present trend continues both forest cover and growing stocks of commercial sized wood in less developed regions like Latin America, Africa, Asia and Oceania will decline by 40% by the year 2000 AD. This includes Ghana's two main ecological zones, the closed forest zone of 81, 342 square kilometres and savannah zone of 156,300 square kilometres which Nartey (1998), describes as having over 80% of the forested land outside the reserves reduced to secondary forest with only 15,000 square kilometres currently intact as closed forest.

2.2.1 Causes Of Deforestation

Several factors have been assigned as causes of deforestation. These include agriculture, commercial exploitation of forests (logging and lumbering) loss of forestlands caused by large irrigation and hydroelectric projects, concession lands for mining, cutting trees for fuel wood and cattle ranching. The impact of deforestation is seriously being felt in many developing countries including Ghana. It is estimated that about 35% of the total land area that is, an area of about 83,489 square kilometres is subjected to desertification. Upper East Region and the eastern parts of the Northern Region (an area of 78,718 square kilometres or 33% of total land area of the country) are facing the most hazardous attack.

University of Ghana http://ugspace.ug.edu.gh

The coastal savannah of the Accra plains constitutes the remaining area at risk (Laing, 1994). Laing describes an average annual destruction rate of 22,000 hectares or about 1.3% in 1981 – 1985 with logging contributing the most devastation. Logging contributes to forest degradation when it opens up new areas to settlement and farming. For example, in the 1930's, 16,000 square kilometres of forests designated for reserve were destroyed due to the booming of cocoa farming at that time (Foeline, 1998). The 1970's also saw an unlimited felling of over matured and large trees resulting in a number of species almost reaching the verge of extinction (Foeline, 1998).

Kulharni (1991) again discloses that plant and animal species lost during deforestation in the past two decades constitute over one fifth of all species on the earth planet. The flora of the Ghanaian forests and savannahs number over 2000 plant species in the Flora of West Tropical Africa. Out of this, 730 species are found in closed forests (Laing 1994). Soil erosion due to deforestation also has disastrous consequences in the reduction of soil fertility, increasing floods, heavy siltation of dams, tanks, reservoirs, streams and rivers.

At the micro level, the environmental benefits of trees and forests in reducing wind erosion and stabilising soils against water erosion are readily demonstrable. Forest destruction is believed to be responsible for a significant decrease in rainfall. Reich off (1991) cites the Amazon Forest as the type that is known to generate about 50% to 75% of its own rainfall in the so called "small cycle" which only functions in large forest areas.

University of Ghana http://ugspace.ug.edu.gh

The tropical rain forests contribute to the maintenance of water bodies during rainfall and help to maintain a climatic pattern of wet and dry seasons in their zones.

Most tribal communities also make a living from the forests. Some communities live exclusively on hunting and gathering of food, fuel, herbal medicines and the like from the forests. It has been estimated that the collection and sale of minor forest produce provides employment for about 30 million people annually in India (Kulharni, 1991). Currently in Ghana, these non-timber forest products (NTFP) are one of the major export trades. It generated over 609 million dollars in 1995 (Foeline, 1997).

Bush fires occurring widely in Ghana are also another major cause of forest destruction. It occurs extensively in the savannahs as a result of fires set intentionally and unintentionally. Game hunting is one of the unintentional causes of bushfires. In order to scare game out of hiding, hunters usually set bushes ablaze and failure or inability to extinguish these fires destroy a lot of forests. Intentional fires called "early burning" set in vegetation near the forest-savannah boundary during the dry seasons of November to May contribute to a lot of damage. Although practised since time immemorial, early burning has contributed significantly to deforestation. According to Ampadu-Agyei (1988), bush burning has a long pedigree in Ghana and Africa in general. It would seem that the culture of burning is inextricably interwoven with the socio-economic fabric of the Ghanaian society. The ordinary farmer in the rural area does not understand why bushfires should be forbidden at a certain period of the year.

University of Ghana http://ugspace.ug.edu.gh

The devastating bushfires that swept through Ghana in the 19982-83 and 1983-84 dry seasons are cases to remember.

Land for grazing is at times set on fire in order to regenerate fresh grass. The fires are therefore a necessary evil, but unfortunately, they spread far and burn woodlands, reforested areas, crops, homes and many more (Vaohita, 1991). Wood fuels mainly in the form of fuel wood and charcoal make up 75% or more of the total national energy consumption (Laing, 1994). Fuel wood is the backbone of cottage and rural industries such as traditional pottery, bread baking, fish smoking, pito brewing, tobacco curving, brick and tile industry. It also provides nearly all the household energy used for cooking and water heating. Vaohita (1991), writing on the threats to the tropical forests of Madagascar stated that in 1990, 132,000 tons of wood and charcoal were demanded as fuel energy and this caused the country to lose 2,000 square kilometres of forest.

Poverty is primarily responsible for this problem of externalised environmental costs. Kreis (1993) says that millions of people in the Third World can only find fuel wood or claim arable land by destroying forests. They cannot pay for their fuel wood. Nketiah et al. (1989), in a survey of the charcoal cycle in Ghana found out that only 14% of urban households sampled depended on fuel wood alone for their domestic fuel while 16.8% depended on fuel wood with other fuels. But in the rural areas, fuel wood constitutes by far the greater percentage of the total national energy consumption. These depict why deforestation is of much concern to environmentalists.



University of Ghana http://ugspace.ug.edu.gh

2:2:2 Population, Resources And The Environment

According to Strahler and Strahler, (1977), "when population is plotted against time on arithmetic scales, the rising curve steepens so sharply that it becomes almost perpendicular in the time interval of the past half century"(p.178). During the entire course of human history up to the year 1850, the human population had only reached one billion persons and it is estimated that the world's population for the year 2000 will be 6.5 to 7.0 billion (Strahler & Strahler, 1977). This phenomenal rise in total world population coupled with the sharp increase in growth rate in recent years is a fact on which there can be no debate. Directly related to the rate of population increase is the way non-renewable earth resources are being exploited. Consumption of these resources has skyrocketed in the past century. According to Stein (1993), large areas of rain forest in Papua New Guinea are being exploited and irreversibly destroyed at an alarming rate. With a planned annual commercial felling of 200,000 hectares, explosive population growth has drastically changed this pattern by an enormous illegal felling. Vaohita (1991) attributes the destruction of the forests in Madagascar to the work of man which is on the increase. According to him it has been estimated that 2,000 square kilometres of forest are being destroyed annually with 80% already vanished. Madagascar's population of 11 million inhabitants is growing at a rate of 2.7% and will reach 14 million by the year 1999. Furthermore, he states that between 1980 and 1984, 100,000 square kilometres of land was cleared for farmland. As at 1990, 85% of the population was rural, living on land dissected by valleys with fuel wood as their only source of energy.

University of Ghana http://ugspace.ug.edu.gh

Razak (1993) describes India to be losing forest as a result of millions of livestock overgrazing the land. The rate of forest lost in India is at the rate of 250,000 hectares per year and there are 90 million herds of livestock grazing in the forests although the forests have the capacity to sustain at most 30 million. According to him, during the decade of 1970 to 1980 between 20 and 30million hectares of tropical forests were sacrificed to migration farming in Asian and pacific territories.

2:2:3 Cost And Effect Of Degradation

The beginning of the 20th century saw Ghana with about 8.2 million hectares of high forests. As the country nears the turn of the century, this has been reduced to a mere 1.6 million hectares (Laing, 1994). The safe limit to harvest our forest is an annual allowable cut of 1 million cubic meters and yet, this is being exceeded. The economic gains of our forestry resources although important have other repercussions too. The forests have long term beneficial effects on the climate, soils, water resources, biodiversity and many more for posterity and our survival than the direct economic benefits in its resource-based industries.

Investing in conservation whether planting a tree rather than cutting one for fuel wood or adopting improved land management practices to maintain soil fertility requires investment in capital or labour which the poor may not be able to afford. Skewed income distribution in which the rich are better able to make such investments or secure such services, means that the poor are more likely to continue to exploit the available resources in an unsustainable manner. (EPA,

University of Ghana http://ugspace.ug.edu.gh

1997). This has prompted the Government of Ghana to adopt measures of managing the forest resources and has now transformed the forestry department into a cost effective and efficient forest service (CSIR, 1998). Tackling the degradation of our environment is a complex challenge to creating a knowledgeable, well informed and ready to learn society.

2:3 Environmental Education And Training (EE&T)

In recent years there has been a gradual awareness both worldwide and within each individual nation of the role education should play in understanding, preventing, and solving environmental problems. At the Stockholm conference in 1972, it was decided that environmental education was to be organised formally and massively with the emphasis on individuals' acquisition of knowledge and skills to develop proper attitudes and commitment to improve environmental quality. The Tbilisi Conference also emphasised environmental education on the following lines:

a) An awareness of the environment and its problems.
b) Basic knowledge and understanding of the environment and its interrelationship with man.
c) Social values and attitudes that are in harmony with the environmental quality.
d) Skills to solve environmental problems
e) Ability to evaluate environmental measures and educational programmes
f) A sense of responsibility and urgency towards the environment so as to ensure appropriate actions to solve environmental problems.

University of Ghana http://ugspace.ug.edu.gh

At the American States Conference on education and the environment in 1971, environmental education was to involve teachings about value judgements and the ability to think clearly about complex problems of the environment, which are political, economical, philosophical as they are technical (Sinha, et al, 1985).

Environmental education is therefore seen as an action process related to the work of almost all subject areas – biology, geography, economics, agricultural science and many others. Environmental education is envisaged to be concerned with nature, aiming at improving the environmental quality by enabling learners to take part in planning their own learning experiences about the environment. Haggis (1991), states that learners of EE&T need to have a sense of "issue ownership" and "empowerment". Issue ownership implies that a person has real understanding of the issue with which he or she is dealing with and those issues are of extreme importance to him or her.

According to Karottki (1997) and the Tbilisi conference report, the objective of most environmental educationists is to change attitudes and demonstrate alternatives for sustainable development. The message is actively to be disseminated via education, training, mass campaigns and the mass media to the general public, and decision makers by formal and informal means. Pre-service and in-service programmes were to be organised for teachers and administrators. Teaching methods were to be responsive to the needs of any particular group or discipline. It was to take into account the teaching objectives, learners' characteristics, psychology of learning and teaching processes and the resources available. Some teaching methodologies suggested include

University of Ghana http://ugspace.ug.edu.gh

investigatory, clarifying strategies, simulated exercises and role playing, case study and centres of interest. Appropriate teaching methods were to be selected to achieve specific objectives that are major contributory factors to learning. Learning experience was to be made as realistic and as useful as possible and this requires methods, techniques and devices, which will encourage the participation of the learner in the learning process.

The major purpose of environmental education therefore, as stated by the Tbilisi report is to develop environmentally literate citizens who have not only acquired the necessary skills and attitudes but those that will need to be transferred into decision making processes of the learners life and change of behaviour towards the environment. According to Clover (1997), the majority of all adults are not aware of the basic environmental impact of their own activities, yet it is they who are the voters, decision makers, the government and community leaders.

Currently, new models of environmental adult education and training go beyond creating understanding and awareness, says Clover. The aim is to build skills, a sense of commitment and responsibility and ultimately action. Environmental learning is to encourage participation and build vision in which the contributions of men, women, persons of colour, indigenous, the young and the old are all equally respected. Environmental education is to explicitly draw from the knowledge of the indigenous peoples, those who are most often closest to the land. Clover continues to say that, there are numerous non-formal environmental adult education practices taking place around the world today.

University of Ghana http://ugspace.ug.edu.gh

- In Hong Kong for example, community workshops provide opportunity for concerned adults and community based environmental educators to discuss local and global environmental issues.
- In Australia, the study circle method has also been expanded to include environmental issues.
- Women living in the interior of larger Pacific Islands such as Fiji, have organised community education workshops about the rainforests and relationships with the ecosystem.
- The Atlantic Women's Fishnet is also another network of women in Atlantic Canada, which uses popular theatres with men and women in the communities as a way to educate about the collapse of the cod fishing industry (Clover, (1997).

Such environmental adult education methodologies within communities show how the knowledge of others has become a basis to create new knowledge and a new vision of the world. These are mostly processes of learning that begin with the experience of the learner, involving a high degree of participation and are also action oriented.Thus, N'Gaba-Waye (1997), suggests that since most environmental education needs to have local, community and even family dimensions to create new educational methods, some of these methods can easily be adopted in developing countries. He recounts the case of the Sahel where environmental problems of deforestation led to ecological crises, but with an educational intervention and reorganisation of the charcoal burners and

UNIVERSITY OF GHANA LIBRARY

University of Ghana http://ugspace.ug.edu.gh

exploiters organisation, new policies about the forest have now saved it from further depletion.

Adekoya, (1991) describes an environmental education programme in Nigeria where adult learners in small group discussions were taken through basic knowledge in environmental pollution. The outcome was an awareness and knowledge of their environment. Most of them were fish farmers along the rivers where oil spillage and burst pipes continually damaged the environment.

There was also a situation in Papua-New Guinea, where the country's rain forest was seriously being cultivated. An integrated environmental programme using participatory and observant approach was adopted to save the forest. (Stein, 1993)

In Columbia, a non-formal approach of education was used in helping fifty families take charge of community plant nurseries. Training was given to these families in tilling new lots and planting the new crops. The result was that, active participation, inter-institutional co-ordination and significant alteration in individualistic behaviour furthered their ventures and sub-projects (NMEDAE, 1993).

2:4 Attitudinal Change

The concept of attitude and attitudinal change is the formulation, which the researcher proposes to use as the basis of the study. This is because

University of Ghana http://ugspace.ug.edu.gh

environmental education and training whether formal, non-formal, or informal is seen to be grounded in the critical and innovative thinking of any place or time promoting the transformation and construction of society. It is to help develop an ethical awareness of all forms of life with which humans share this planet, respect all life cycles and impose limits on humans' exploitation of other forms of life. For this to be achieved, the individuals and groups must create new lifestyles, which are friendly towards the environment or the planet earth.

Attitudes according to Gleitman (1991) are a combination of beliefs, feelings and evaluations coupled with some predisposition to act accordingly. It is said to be made up of three prominent components, namely, cognition (belief); feelings and tendencies. Davidoff (1987) and Krech et al. (1962) also share this definition.
All port views attitude as a mental and neutral state of readiness organised through experience that exerts a directive or dynamic influence upon the individual's response to all objects and situations with which it is related. However, Davidoff (1987) was of the opinion that attitudes are predisposition to act in a certain way towards some aspect of one's environment, including other people. This may involve the likes and the dislikes.

However, Gross (1987), agrees that three components namely, cognitive, affective and behavioural contribute to how a person actually responds to the object. Attitudes are learned and are persistently remaining with us for long periods. Often people pick up some attitudes through behavioural learning without being aware of learning anything.

University of Ghana http://ugspace.ug.edu.gh

One mode of influence is observation learning – Simply put it involves observing and imitating others especially in a group; (see Bandura) in Krech et al. (1962). They disclose that many of the attitudes of individuals have their source and support in the group to which the individual gives his allegiance. His attitudes tend to reflect the beliefs, values and norms of the group. Consequently, the behaviour of any community that is unfriendly to the environment, will tell by the way of life of its inhabitants.

Krech et al. further state that attitudes are formed or developed when an individual wants to satisfy his wants. He develops unfavourable attitudes towards objects or situations that block the achievement of his goals. In this respect, it is believed that if environmental education disseminates correct information on an egalitarian basis as to an individual or community, favourable attitudes would be formed towards the environment. This is also in line with the fact that attitudes are not only developed in the service of wants but also shaped by the information to which the individual is exposed.

People are continually trying to modify one another's attitude mainly by advertisements and persuasive purposes. New information is also frequently being used to form attitudes that are in consonance with pre-existing related attitudes. The question is: what forms of attitude are people, individually and collectively holding about the environment and its future existence? Many attitudes held by people of late lack validity simply because they are not sufficiently well informed and one of the major reasons why so many of us incorporate invalid and inadequate facts into our attitudes lie in the complexity of

University of Ghana http://ugspace.ug.edu.gh

the world in which we live and its rapidly changing nature which is our source of information. According to Krech et al. and Davidoff (1987), when issues are important to people such as environmental problems that are currently a global one, people will scrutinise any message related to the material, add to what they already know and then rationally evaluate their own positions. During this course they may come up with data that support the message or may discover convincing counter arguments. If the thoughts are favourable they are persuaded and if unfavourable they resist. Such change of mind is likely to last long. How easy or difficult is it to change one's attitude or mind?

Gross (1987), Davidoff (1987) and Gleitman (1991) together say that any attempt to change the attitude of another would mean one need to know "who says what, to whom and with what effect." That is to give the following prominence in interaction with people:

a) The source of the persuasive communication (communicator)
b) The communication (message itself)
c) The recipient or audience
d) The situation or context

For any environmental education programme to be effective and meaningful and attempt to encourage the people to acquire knowledge and skill, the source of the message plays a big role, more especially when the people are not highly motivated to process information and do much critical thinking.

The communicator should be attractive, likeable and an expert or at least knowledgeable in relation to the attitude object. The source's credibility and

University of Ghana http://ugspace.ug.edu.gh

trustworthiness is initially important and as time goes on the people will focus on the message itself.

The communication or message if well reasoned is also very often persuasive. Non-verbal aspects of messages such as face-to-face communication may be more effective than attempts by the media to change attitudes. This is because when the source receives feedback from the recipient in the form of facial expressions, eye contact, body posture and so on, they are in a better position to anticipate objections and so modify the message and present counter arguments. Gross further believes that the message should be explicitly or implicitly spelt out. For recipients of low intelligence or motivation, explicit message may be preferred. Whilst implicit messages may be more effective if the recipient is capable of drawing conclusions. The recipient or audience also need to be influenced by the source and the message.

Persuasive communications need to be tailored towards the audience. But as Knowles (1980), contends, the success of any educational programme or method depends on the felt needs of the target population. If this is addressed then the education can have an impact.

Attitude change is more likely to take place when the personal involvement of the target population is heightened. The level of education, functions of attitudes, latitude of acceptance and rejection, and individual differences all contribute to change of attitude in an individual or a community. Informal situations, such as group discussions, have proved more effective than formal situations such as

University of Ghana http://ugspace.ug.edu.gh

speeches and lectures partly because of differences in the perception of who is trying to influence whom and for what motives. (Gross 1987). Role-play is another kind of informal situation that has been found effective both in a therapeutic setting and experimental way in attitude change. Opinions that are expressed privately or anonymously are far less likely to bring about attitude change.

In conclusion, environmental educationists can empower all peoples and promote opportunities for grassroots democratic change and participation if some of these measures are adopted. Communities and individuals can regain control of their own destiny if the correct attitudes, values and lifestyles are employed in their therapeutic settings.



University of Ghana http://ugspace.ug.edu.gh

CHAPTER THREE

3.0 Research Methodology

3.1 Research Design

Having learnt from the community that the afforestation programme was only halfway through completion because more seedlings are being nursed for planting on the rest of the acquired land; a formative evaluative study using group interview was designed for the research. The study was focused on the activities that took place during the initial stages of the programme. The main purpose being to identify and assess the teaching and learning activities of the programme and its impact on the lifestyle of participants. This was done from the perspective of the participants and the institution that delivered the programme. The field work involved both questionnaire and interview for the institution and focused group discussion for the participants.

3.1.1 Personal Grounding

Previous background as a science teacher and patron of the Evergreen Club - an environmental club in the researcher's former institution, generated interest in the study. Furthermore, as a member of a committee on Social Responsibility in the researcher's church community, issues such as environmental education and many others have always been of much concern to the group.

Evergreen Clubs are clubs formed in Primary and Secondary Schools purposely meant to create awareness and impart knowledge about the environment to the

University of Ghana http://ugspace.ug.edu.gh

younger generation. It is also there to develop in them various skills of managing the environment. Tree planting/afforestation is one main area that members mostly engaged in.

The opportunity to carry out this study was therefore of great interest and enthusiasm. Access to the community for the study was made possible by a senior citizen who hailed from the area and an influential personality in the development of the area. He was the contact person for "FOE" on site and the animator for this study. The study was also made possible by "FOE" who had other income-generating activities on plan; an assessment of a previous project was of much interest to them.

3.2 Population

The population for the study was made up of the entire members of the "Friends of the Earth" – Abokobi branch that participated in the education and training programmes. The total membership as at the time of the programme was hundred and five (105).

3.3 Sample

Purposive sampling technique was used in selecting the respondents from the participants who were with the group at the time of the programmes. It was the belief of the researcher that such respondents would be appropriate for data collection. The study used a sample size of fifty-two (52) comprising 5 groups of 10, 9, 10, 11, and 12 members.

University of Ghana http://ugspace.ug.edu.gh

3.4 Instruments

A questionnaire consisting of open and closed-ended questions was designed and used in collecting data from the staff of "Friends of the Earth" (FOE). It was closed-ended to ensure greater uniformity and achieve at the same time reliability. The essence of the open-ended technique was to probe further on the questions and eliminate misunderstanding or ambiguity. An unstructured interview was further carried out with senior staff members to find out more on how the training programme was organised and carried out practically. This was to ensure objectivity in the study (Dennis and Krishna, 1988).

As usual of such studies a focused group interview was the method adopted in collecting data from the respondents at Abokobi. This method was used considering the fact that the time limit for the study was very short. Secondly, the size of the village was such that this was the most appropriate method in the circumstance.

An unstructured interview guide probing the topics and sub-topics was used. Some issues that the guide probed included;

* Their previous knowledge on environmental degradation and how they came about that knowledge.
* The attitude of the community towards the environment before "FOE's" intervention.

University of Ghana http://ugspace.ug.edu.gh

* The form of education and training that was given them and how the community/participants embraced it. The aspects of the education and training that were relevant to them, interesting and effective in their situation.
* The after effects/benefits of the programmes to them.
* The evidence the community is demonstrating to indicate whether their attitudes have changed or not changed after the programme and what could be done to those demonstrating no attitudinal change.

3.5 Field Work

Before the period of data collection, several trips were made personally to the community that undertook the programme to ascertain facts for oneself and the situation on the ground. It was also to establish rapport with some of the participants. Personal contacts were also made to the Environmental Protection Agency to find out the different techniques/methods used in environmental education and training at their outfit. This was to aid the researcher to cross-check with that of "FOE" and by that also measure the reliability of the instrument.

Personal contacts were made with the animator and some participants who gave a brief background to the project. This established a rapport between researcher, animator and few respondents. At a second visit to the community an opportunity was taken to pre-test the interview guide with three respondents who were with the group from its inception.

University of Ghana http://ugspace.ug.edu.gh

The outcome of this was used to restructure and re-organise the actual interview guide for the focused group discussion. During these initial visits the purpose and scope of the study was made known to the animator. He was made to understand that the study sought to find out and assess the teaching and learning process that took place when "FOE" staff came around; and how the programme has benefited them. The outcome would help plan for similar programmes in other communities. The study was whole-heartedly welcomed.

On the field, an assistant (rapporteur) was engaged to help record the responses from interviewees. Five groups made up of 11, 10, 9, 10 and 12 members each were used for the various discussions. These selections and groupings were made with the help of the animator based on those who were with the group during the time of the programme. The initial plan was to have ten members each in a group but factors such as poor patronage and inactive involvement by members resulted in the variation of the composition.

Each group met during the late afternoons between 3.00pm and 5.00pm. This was due to the fact that most of them were farmers and had to return from their farms before meetings could start. Discussions on the average lasted for one hour fifteen minutes. Meetings were also held on the verandas of a member with only one held on the forecourt of an elderly member. Respondents were seated comfortably on benches arranged in a circular manner with the rapporteur sitting among respondents at one end whilst the moderator being the researcher herself seated away from the rapporteur. This portrayed a mixed up/mutual blend with the respondents. Before the beginning of any session, an informal conversation

UNIVERSITY LIBRARY

University of Ghana http://ugspace.ug.edu.gh

was brought up as a means of reducing any tension and familiarising relationships between moderator, respondents and rapporteur. During this period self-introduction of members in the group starting with the moderator was made. Issues like occupation, previous background, ages and names were talked about. The researcher at this point also took the opportunity to explain the purpose of the study/discussion and its scope.

Members were encouraged to feel free in participating in the discussion meetings. They were made to understand that the meetings were not question and answer class/session but an informal discussion where views and experiences of each member were highly recognised. Divergent views were also welcomed from any member. Due to time constraint, members were humbly requested to be brief with their contributions so that other members could have a chance of making their points. However no one was to hold back an idea or information since that would do a great harm to the study. These rudiments of introduction encouraged respondents to be settled in their minds, relaxed and immediately set some of them to start asking questions. Furthermore, respondents' permission were sought before rapporteur/assistant was asked to record proceedings at the discussions.

A formal start of each discussion went straight to the questions on the interview guide and as much as possible each member in a group was made to share his/her idea or experience on each sub-topic. Responses, which were of general consensus due to non-verbal cues made, were at times re-focused or probed further for further answers.

University of Ghana http://ugspace.ug.edu.gh

In one or two instances some respondents who were making long disjointed remarks were politely interrupted to sum up and give others the chance to express their opinions. There were however others who were shy, and timid, reluctant to talk; they were on few occasions called upon by being pinpointed to share their ideas. Respondents on the whole were very co-operative and were always ready to share some ideas. The end of two sessions saw a meal of freshly boiled corn with coconut apparently organised by the animator. This was shared among members with the researcher and rapporteur. An expression of gratitude and appreciation was made to the animator while each session ended with similar words of thankfulness.

3.6 Limitations/Problems Encountered

Discussions were on two occasions disrupted by rainfall since the period for data collection coincided with the rainy season. As such, some members had to be excused to attend to domestic/pressing issues. These withheld the meetings, prolonging them in the long run, beyond an hour.

Secondly, because of the informal atmosphere that existed some members were in the habit of dragging issues with lengthy stories and personal complaints about lack of logistics and cessation of a food aid they were once enjoying.

University of Ghana http://ugspace.ug.edu.gh

3.7 Data Analysis

Notes recorded personally and those by the assistant/rapporteur were together compared, reviewed and organised in line with each major question immediately after a session. At the end of all sessions, common ideas and phrases that reappeared in various groups were linked together and those that appeared most frequently delved into. Emphasis given to concepts, phrases and remarks with specific examples were also taken note of and assigned to its proper theme and sub theme. Non-verbal expressions such as raised eyebrows, hand gestures and tone of voice were all considered seriously and their importance accredited to the particular question. With the research objectives content analysis of the interview was done using frequency distribution and descriptive summaries for the analysis.

3.8 Validity And Reliability

The evidence of validity of this measure can be attributed to the fact that a pre-test of the instrument was carried out and then the outcome used in restructuring the actual interview guide. Secondly, the participatory approach and manner in which the discussions were conducted gave respondents ample chance to express themselves and bring out every information known. This gives validity to the instrument.

The review of notes between researcher and assistant rapporteur to establish inter subjective consensus is also evidence of validity. The reliability of such

University of Ghana http://ugspace.ug.edu.gh

focus group interview also lies in the fact that five groups were used and invariably consistent responses were received from the different groups However, the physiological changes such as poor memory, recall, failing health etc. that had occurred in some individuals made some responses to be subjective and biased. In this case generalising results for a large population can create bias.

University of Ghana http://ugspace.ug.edu.gh

CHAPTER FOUR

4.0 Presentation And Analysis Of Data From Respondents Who Participated In The Project

This chapter is devoted to the presentation and analysis of data collected from respondents who participated in the environmental education and training programmes and the institution that delivered the education and training. The chapter seeks to make a descriptive analysis and summary of the teaching and learning that took place, the peoples' initial awareness of environmental degradation – specifically deforestation, the education to address the problems and the benefits derived from the programme. Background data such as age, sex, educational background and occupation were also solicited to enable a fair view and analysis of their attitude known.

4.1 Demographic Characteristics-Age Distribution Of Respondents

Adult life according to psychologists may be divided into a number of developmental stages each with its own specific needs and interests. Titmus (1989) states that bringing adults of all ages together in one class or programme enriches a learning experience since there is a wide range of experience to be shared for the benefit of all. It is therefore not surprising that from the age distribution shown in Table I, participants ages were spread across the different developmental stages in adulthood.

University of Ghana http://ugspace.ug.edu.gh

Table I:

Age Distribution of Respondents

	Age Range	Frequency	Percentage (%)
1)	35 - 40	9	17.30%
2)	41 - 46	20	38.46%
3)	47 - 52	15	28.85%
4)	53 - 58	6	11.54%
5)	59 - 64	-	-
6)	65 and above	2	3.85%
TOTAL		52	100.00%

The mean age was calculated to be 47 years. In the above Table, the greatest numbers of respondents were found within range 41 – 46 with the oldest person being 82 years old. Havighurst and Erikson in their description of developmental stages/tasks in social life talk about ages 30 – 55 years or middle adulthood as a stable period for working, with tremendous energies and resources for social influence and contribution. It is a period of establishing and maintaining an economic standard of living. This confirms the high patronage of the programme by middle-aged people.The absence of the very young men among the respondents could be due to their migration to the big city to look for white collar jobs.

4.2 *Sex Of Respondents*

Although it has been accepted in some societies that women and men have different needs, expectations and roles to play, these seem to be over riding in this situation. From the data collected fifty out of fifty-two that is 96.2% of the respondents were all men with only 3.8% being women.

UNIVERSITY LIBR

University of Ghana http://ugspace.ug.edu.gh

This outcome was attributed to the fact that the project site was very far away from the village, very close to the hills and as such the women were excused to stay back and fulfil their role as homemakers. However, Jarvis, (1995) explains one fact, that men attach more importance to the idea that education is a means to getting on in the world whilst women give rather less emphasis to it. This can also be a contributory factor for women not showing much interest in this project.

4.3 Educational Background Of Respondents

The UNESCO statement that a person is literate when he has acquired the essential knowledge and skills which enables him/her to engage in all those activities in which literacy is required for effective functioning in his community and whose attainment in reading, writing and arithmetic make it possible for him to continue to use those skills toward his own and the community's development is an obvious opinion in this case. The educational background of participants in Any programme determines the teaching and learning needs of that programme and how it is to be conducted and sustained afterwards. It was for these reasons that the educational background of respondents was solicited to see how they could contribute to the sustenance of the project. Table 2 shows respondents' educational background.

University of Ghana http://ugspace.ug.edu.gh

Table 2:

Educational Background of Respondents

	Level of Education	Frequency	Percentage (%)
1)	Up to standard 7 & above	17	32.70%
2)	Up to primary six and above	14	26.91%
3)	Below Primary six	15	28.85%
	No formal schooling	6	11.54%
	TOTAL	52	100.00%

From Table 2, it is evident that the overall illiteracy rate of respondents is high. Respondents who dropped out of school before primary six and those who managed to reach primary six together with those with no formal school at all constituted 67.2% of the group. This group admitted that they could not either read or write from the discussions that went on. This goes to confirm once more the notion that there is low standard of education at the basic levels in our rural areas/villages. The 32.7% with standard seven level of education are the semi-literate in a community for which further educational programmes of this sort could enable them safeguard cultural identity and community interest of a society. However, ethnic groups in Africa have traditional ways of educating their youth in arts and crafts such as farming, fishing, carpentry weaving etc. It is such form of education that most people indulge in to help themselves.

University of Ghana http://ugspace.ug.edu.gh

4.4 Occupation Of Respondents

The occupation of an individual goes a long way to determine his/her contribution to the welfare of a community; and in this case the environment.

The values and expectations from the environments for different categories of people differ. Table 3 shows the different categories of occupation of respondents.

Table 3:

Occupation of Respondents

	Occupation	Frequency	Percentage (%)
1)	Farmers	45	86.54%
2)	Driver/mate	4	7.70%
3)	Unemployed	3	6.76%
TOTAL		52	100.00%

It is clear from the Table that the farmers form the single highest occupational group in the various discussion groups; they form 86.5%. They would definitely show interest and support for such programmes since they benefit directly from the environment or the forest. The knowledge acquired would go a long way in sustaining the project.

4.5 Awareness Of Environmental Degradation

This section sought to find out whether respondents were aware that environmental degradation of any form was going on in their community and neighbourhood before the intervention by "Friends of the Earth". It was also to find out which aspects of the degradation were of much concern to them and why

University of Ghana http://ugspace.ug.edu.gh

it was so. Every respondent in more than one instance admitted knowledge of environmental degradation. Most responses affirmed the effects of deforestation such as; not having rainfall for longer periods as compared to past decades, dusty dry winds, hot sunny days, etc.

One respondent expressed the sad state of the village upon his return from a neighbouring country where he travelled to work. According to him;

> *"This village was full of trees and greens when I left twenty-five years ago to work in Nigeria; but I truly felt sad when I came on pension to see that the place is so bare with a lot of dust on windy days and on top of all no rainfall. Formerly, snails were crawling out from the bushes around to the paths on rainy days but now there are no such scenes. It really shows how wicked my people have treated the forest" (discussion from group one).*

Other groups also made the following contribution:

> *"There is too much dust during the dry season. When the wind blows you really see it carrying sand with it. Our rooms, windows and everything will be covered with dust and sand. (Group three)*

> *"All the big trees that provided shade under which the elders and older citizens used to hold meetings have all been cut down. Some young boys used to cut them bit-by-bit and sell to the lazy women who can't walk to fetch firewood in the forest. Now everyone is suffering from their misdeeds". (Group five)*

> "*The weather is so hot these days that you can't stand anywhere to converse with a friend. I think its because all the shady trees have been cut and used as firewood. We used to sit under some of those trees". (Group four)*

Furthermore, the responses from most groups indicated poor yields of their farm crops, soil erosion along the roadsides and those with farms along the hillside. One-woman respondent in a group also commented:

> *"I remember when we were young that we used to collect firewood just around the houses for cooking but now we have to walk far away almost one mile towards the hills before you can fetch some and bring home to cook. As I am getting old I just do not know what to do to get firewood" (Group four).*

University of Ghana http://ugspace.ug.edu.gh

"Lack of rains is giving us poor crop yields". (Group two)

"When it rains heavily, which is usually the case because we are close to the hills, you will actually see the soil being washed off. That is why you see our roadsides like that". (Group one)

Almost all the groups indicated fire outbreaks due to hunters visiting their farms. According to them during the dry seasons, truck load of men with guns usually invade their farms and set the bush on fire in anticipation that rodents will come out for them to hunt as game meat. They have reported such incidents to the forestry department on several occasions but nothing has been done about it.

According to them,

"There are often fire outbreaks on our farms which we have reported to the authorities on several occasions but nothing is being done about it." (Group two)

"We formed a combat group and actually caught some guys from Nima who have been setting fire on our farms to hunt for grass cutter and rodents but when we reported to the police they didn't do anything about it." (Group five)

"Our chief even took it upon himself sometime back to help curb down on the hunters but still they come during the dry season." (Group one)

In trying to quantify their awareness it was realised that; 76.89% of respondents indicated awareness of bushfires and deforestation; 28.8% indicated awareness of dusty winds and soil erosion by wind, 86.4% showed awareness of changes in rainfall/weather patterns thus resulting in poor crop yields. 38.4% expressed concern about the gullies formed along the hillsides and roadsides and 34.6% expressed concern about the unsanitary condition at the main lorry station.

From the discussions that went on in the various groups it was obvious that everyone was concerned and expressed dissatisfaction at the rate of degradation

UNIVERSITY LIBRARY

University of Ghana http://ugspace.ug.edu.gh

in various forms more especially in deforestation. People actually wondered the sort of environment their descendants would inherit in fifty to hundred years' time when they have left this world.

They stated:

> *"We have enjoyed our stay on this planet with all the greens around us. Food in our time has not been difficult to come by. Some of these big trees which are now stumps used to be our meeting place for the men of this village but now that all these trees have been cut we have no where to sit and while away the time. Sometimes I wonder at the sort of village my grand/great grand children will live in. I wish I would be given the chance just to come and peep to see how the place is looking like (group one discussion).*
>
> *"It is really a concern to us the older citizens to see the village our fore fathers left us with becoming so bare. We hope that your work will help us do something about it." (Group five)*
>
> *"It is our concern that if we don't manage the trees and our surroundings well we cannot bequeath any property to our children especially our farms which will provide them with food. So we hope you will help us to do something with the work you are doing". (Group four)*
>
> *"We were educated by the people who came here sometime ago to live with the environment as God's creation, especially the trees because the trees help us to get food, air, good health and even clothing. But the way things are going we don't even know what to do." (Group two)*
>
> *"With some of us, our greatest concern and worry is with the bushfires, which outsiders come around to destroy our farms with. If It is not stopped, I don't think it will make farming attractive to the younger generation. It is virtually the only occupation in this village too." (Group three)*

An attempt to rank the various forms of degradation and its degree of concern to respondents resulted in what is shown in Table 4.

University of Ghana http://ugspace.ug.edu.gh

Table 4:

Areas of degradation of most concern to respondents

Ranking/Area of Concern of Degradation		Frequency	Percentage (%)
1)	Deforestation	28	53.85%
2)	Bush fires	12	23.08%
3)	Soil Erosion	7	13.46%
4)	Sanitation	5	9.61%
	TOTAL	52	100.00%

According to Table 4, 53.85% of the respondents realised deforestation as their greatest environmental menace, followed by bush fires 23.08% with soil erosion 13.46% and insanitary conditions 9.62%.

This implied that the natural vegetation was being affected by the changes in rainfall pattern resulting in poor crop yield that will also affect their income and consequently their social lifestyle. The bush fires and soil erosion would also subsequently result in loss of soil fertility, poor crop yield, low income and poor lifestyle. Most rural dwellers depend on trees and the forest for their fuel wood, food and other products such as honey, fibre, and medicine for income. The depletion therefore, implied loss of their livelihood, sustenance and even other biodiversity.

4.6 Media Support For Awareness

Apart from individuals personally observing different ways that the environment was being degraded by natural means and human activities, it came to light

University of Ghana http://ugspace.ug.edu.gh

during the discussions that radio, television and the newspapers were supportive media for awareness creation. Some respondents have radios in their homes and listen to programmes,that educate them on how to manage the environment. Others who do not have, indicated that their community centre used to have a radio box, which from time to time was broadcasting programmes on GBC-radio one in the various Ghanaian languages for the farmer. They stated that:

> *"We were learning a lot from those radio programmes on GBC-Radio one – titled "Time with the Farmer" and "Farmers' Forum". We used to learn time for planting and how to plant various crops. We learnt the various problems facing farmers in different parts of the country. We were warned especially during the dry season not to smoke or set fire anywhere near our farms for bush fires are rampant during such periods. Various crop diseases and their remedies were explained during this programme. In fact we were very sorry when the radio ceased to work and now there is nothing of that sort at the community centre (Group one)*
>
> *"We don't have radios but when at times relatives/friends from the city bring one around during occasions/holidays and week-ends we hear broadcast on farming techniques, bush fires and preventive measures. We gather around such a fellow and listen to some of the programmes. As for T.V. I don't have and haven't seen any programme about farming or deforestation on it too. I don't even watch one" (Group three).*
>
> *"There used to be a radio-box at the community centre which was really helping us listen to some of these farmers programmes. But since it got spoilt we don't have any other source." Group five)*
>
> *"Not all of us have radios, only few people have. They listen and tell us some of the lessons and news they hear No one has a T.V. amongst us here. We don't watch T.V. in this village" (Group two)*
>
> *"We are all poor around and can't own a T.V. set, so we don't watch programmes about bushfires and deforestation.*
> *It is when you visit a relation in the city that you can see some of these things" (Group four).*

None of the respondents owned a television set but some indicated watching television when they visit relatives in the city and have learning of environmental degradation such as deforestation, bush fires, insanitary conditions and many

University of Ghana http://ugspace.ug.edu.gh

more from programmes they watched. Only few respondents also indicated awareness from newspapers.

> *"I don't often read the newspapers because no one sells some in the village but once a while when I go to the city to see to my personal business I try to buy and read to know what is going on in the world. I have a radio but the newspapers also have other interesting articles such as lotto column, funeral column, advertisement etc. and I like reading all these. I have on several occasions read about bush fires, polluted water and air and others" (Group two)*

> *"I don't buy newspapers, but I have seen the effects of bush fires in the papers before." (Group one)*

> *"I have seen the devastating effect of deforestation in the newspapers before. I took it from a friend." (Group four)*

This low usage or patronage of newspapers although not available at the village can also be attributed to their low educational status. If one cannot read and write there would be no need spending money on newspapers.

4.7 Pre-Programme Attitudes Of Respondents Towards The Environment

Discussions from all the groups indicated that their attitudes towards the environment before the educational programme were low and unwholesome. Some respondents stated:

> *"We didn't care or mind the way we cut down trees. We felt that so far as we needed them we could cut because new ones would grow by themselves. We didn't realise that our population was increasing and as everyone cut the trees they were getting finished." (Group one)*

> *"We thought that trees grow naturally by themselves. So we were just cutting them". (Group five)*

> *"I haven't seen anyone intentionally planting trees such as the ones around us". (Group two)*

University of Ghana http://ugspace.ug.edu.gh

As to a question about whether they have seen some one planting fruit and decorative trees around their homes and road sides; respondents replied,

> *" I know you can buy a plot of land and plant trees such as cocoa, palm fruit trees, coconut trees etc., but as to the planting of ordinary trees such as we have around us I have never seen or known one." (Group four)*

> *" I have heard from the elders that if you plant a tree, it would never grow and mature to meet you alive. Which implies that you might die before the tree matures". (Group two)*

All those who supported this idea forgot that the rate of growth of a tree was not directly proportional to the rate of cutting and that it takes decades upon decades for trees to become what we see.

Other respondents also commented about the way young men and children in the village cut trees indiscriminately just to build tents and shelters to relax in as their 'cabin' especially during sunny days/occasional seasons.

> *"Until we had the workshop on the environment I didn't see anything wrong with cutting trees for tents and using branches to make fence wall to ward off peoples goats from entering my compound/backyard gardens. We inherited the tradition of our grandfathers using branches to make fence around the small vegetable farm at the back of the house. Now I know I can rather plant short trees or shrubs for that purpose instead of cutting branches and trees." (Group two)*

> *"Special occasions and festivals were times that the youth made tents and shelters to enjoy themselves. We never saw anything wrong when they cut trees for such purposes." (Group five)*

> *"The youngmen were cutting the trees/branches to make shelters and tents during sunny days just to relax in because the rooms were too hot." (Group three)*

There were other responses from groups, three and five, which indicated that, the slash and burn before the next rainy season was of benefit to the farmer.

UNIVERSITY LIBRARY

University of Ghana http://ugspace.ug.edu.gh

"Some of us held the view that if you burn your farm before the next planting season then the ashes and decayed bye-products would make the soil more fertile for the next planting season to benefit from; but now we know that we had rather been doing harm to the land". (Groups three)

"In the olden days we learnt that you have to burn the farm before the next planting season so that the crops can grow well" (Group five).

All these views expressed from the various groups indicated that the attitudes of people were mostly out of ignorance, and lack of knowledge and as such the educational programme was of benefit to them.

4.8 Delivery Of Education And Training

According to Knowles (1980) and Jarvis (1995) the art of adult teaching and learning centres on the principle of ego-involvement. The main thrust of modern adult-educational technology lies in the direction of inventing techniques for involving the adults in ever-deeper processes of self-diagnosis of their own needs for learning, formulating their own objectives, designing activities and evaluating at the end. Teaching methods employed should never undermine but always seek to enhance the dignity and humanity of the adult learner. Small group interactive and presentational methods, which are student centred, are mostly recommended for adults. It is upon this fact that the respondents were asked to state and express their views on the methods of teaching and training, which were used. The general consensus from all the groups was that the teaching methods that made everyone to express his/her opinions were used in teaching them. These included, group discussions, open fora, workshops and demonstration on the field.

University of Ghana http://ugspace.ug.edu.gh

Most respondents' views were:

> *"The most interesting thing I liked about the teaching and training was the way they mixed up with us to find out our problems and helped us solve them. You could tell them every problem you were facing on the farm and they were prepared to help you. As farmers we liked the way we were taken to the field to be shown how to plant certain species of plants/trees. It was interesting to learn that tape measure is used on the farm. I thought only tailors use them. Measuring intervals and depths of holes before planting seedlings was interesting." (Group four)*

> *"We liked the way they made us to do it ourselves. After showing us how to measure and plant one seedling they left us to try our hands on them ourselves' (Group five)*

> *"We understood the teaching well from the way they explained the importance of trees to man with pictures and why we should stop cutting trees because they are the source of our living". (Group two)*

> *" I liked the way we were taught to care for the young trees like our own babies. We were to show them love and care, water them morning and evening, cover the base with mulch and even talk to them sometimes". (Group one)*

> *"We learnt on the field that you don't plant anyhow but must measure the depth of the seedling hole before planting." (Group three)*

> *'I didn't know that different trees are planted with different distances between them. I thought that so far as it is a tree you plant it anyhow. So it was very educative. e.g. Eucalyptus trees are not to be mixed with other trees". (Group five)*

A video film on "our common future" was shown during the programme to explain to participants the relationship between man and his environment. How man is responsible for the problems of the environment; concept of sustainability and careful use of resources to preserve some for future generations. Flip charts and posters of various environmental degradation were added to support teaching. Most respondents commented favourably on the teaching methods.

University of Ghana http://ugspace.ug.edu.gh

"At the workshop, they showed us many pictures (charts) on how forests are being destroyed in different parts of the world and our country and its effect on farming. We were told of facing similar effects if deforestation continued in our area like that. I also liked the video films that were shown to us. The film on bush fires was very frightening and alarming. Most of us after the film have vowed to fight anyone who comes to set fire around our farms". (Group four)

"I liked the video film they showed us. You could see what was happening in other parts of the world. Bush fires are very destructive. The posters and flip charts were very explanatory." (Group two)

"I appreciated the pictures shown at the workshop on how forests are being depleted in different parts of the world and its effects on man. It was really frightening". (Group one)

"Since we watched the film we have been planting trees around our farms to stop any fire reaching our crops ". (Group five)

"Since watching the video I've decided to stop using firewood to cook instead I've asked my daughter in the city to get me a gas cooker although I fear it too (laughter!). (Group three)

On the whole all groups expressed views that indicated that new knowledge had been acquired.

"I think I can speak on behalf of my fellow farmers that we learnt a lot from the officials who came and organised the workshop for us. I personally didn't know that different trees are to be planted differently and separated from one another. (Racism also in the plant Kingdom). That was interesting. Eucalyptus doesn't mix with Cassia and other trees. As farmers we learn new things everyday. The explanation they gave when we watched the film on deforestation, bush fires and benefits from the forest were very helpful. We know that our lives depend on plants and we can't live without plants. We thank the organisers so much for this knowledge". (oldest respondent)

"I think all those who participated in the programme have learnt a lot about the importance of the forest to man especially the farmer. We knew plants are important but the programme has given us more insight." (Group four)

'I have acquired new skills to protect my farm from fire and that is building of fire belts which I didn't know before then." (Group three)

University of Ghana http://ugspace.ug.edu.gh

"The programme was very appropriate for us and very helpful. This is because our crops were withering for lack of rains; the weather trees around our homes as we were taught." (Group one)

These responses go to confirm that the aims and objectives for any teaching and learning programme must be relevant to the needs and wants of the learners. The course contents and organisation are all part of the educational processes that must be considered. Respondents were asked to rate the relevance and effectiveness of the teaching programmes; and the following was obtained:

Table 5:
Relevance/Effectiveness of Methods:

	Response	Frequency	Percentage (%)
1)	Very Effective	38	73.08%
2)	Effective	10	19.23%
3)	Quite Effective	4	7.70%
TOTAL		52	100.00%

The high percentage of respondents' view on the relevance and effectiveness of the teaching methods indicated the acceptance of the programme with deep satisfaction. This can be attributed to the fact that most respondents were farmers. The short and long term benefits to reach the fulfilment of personal and social goals were obvious for most of them as farmers. It can also be due to the motivation they had to know more and learn skills necessary for coping with everyday life. Effectiveness and relevance of the methods were marked low by only the unemployed and driver/mates.

University of Ghana http://ugspace.ug.edu.gh

4.9 Evidences Of Attitudinal Change

After such educational and training sessions it is believed that the people's attitude /lifestyle would change for the better. As a means of measuring the direction of change of the peoples attitudes respondents were asked to explain the direction the change in their attitudes towards the environment took. There is a day called 'ABOR'; a day on which every one whether young or old,

"FOE member or not joined hands in planting trees in the village. The researcher sought to find out weather the programme had increased the desire of everybody to participate in the 'ABOR' day activities.

> *"We were told of a day called 'ABOR DAY', which is meant for tree planting; so on that day everyone including the chief and his elders, school children and everyone rally around for tree planting. We are supplied with seedlings from Amasaman office and every one participates in the exercise. This is one way I can say that the people have changed their attitude toward tree planting". (Group five)*

> *"We were told of a day called "ABOR DAY", the name of a man who planted trees to save his village. So we have been planting trees every year on this day to save our village. Even the chief joins us sometimes with all school children. Lessons from the video that trees provide rainfall, brake windspeed etc., have helped us carry out these exercise." (Group three)*

> *"On ABOR DAY" the gong-gong is beaten for all inhabitants to join in the planting. It is sometimes declared a free day for the school children to also join. Amasaman forestry department supplies the seedlings". (Group one)*

Furthermore, many respondents who were farmers talked about attitudes they have adopted to fight the incidence of bush fires.

> *"We learnt about fire belts during the workshop, so I have been able to plant some trees orderly and closely around my farm to prevent any fire from those hunters reaching my crops." (Group three)*

University of Ghana http://ugspace.ug.edu.gh

"I learnt about firebelts from the film and since then I have tried building one. I planted fruit trees such as mango trees to act as shade and firebelts." (Group four)

"I built a fence wall with short trees around my farm and my children are planting more. We learnt all these from the film." (Group two)

"Some of us had never known what they called fire belts but because we were taught at the workshop, now I have planted some shrubs around my farm to act as fire belts against any fire outbreak. I have even planted some fruits trees such as mango trees in between my crops to act as shade on the farm. I learnt all these from the film we were shown. Even some farm friends who were not at the workshop because they saw us planting trees around our farms they have done the same and in my opinion I think we are practising what we learnt from the experts and from the film." (Group one)

Other responses from most groups indicated that the whole community is changing its attitude towards deforestation. Currently, the chief and his elders have instituted a ban and a fine on anyone caught cutting trees indiscriminately for any purpose. There is a substitute of tarpaulins and canopies, which can be hired at a fee from the community centre and women's groups of the village. A group of young men have been constituted to form forest guards to see to the safe protection of the remaining forest trees. Respondents seemed to abide by these rules.

Some responses are:

"There is a ban on tree-cutting for use as tents or as canopies during funeral occasions, church harvests and even durbars. We have rubber tarpaulins or canopies for hiring at the women's centre and so everyone is supposed to use that. Some of us have been made forest guards to arrest and bring before the chief anyone caught cutting fresh trees. Even our women are not to cut fresh branches but to pick up dried and dead sticks in the forest. There is a fine against anyone who goes against this ban; but some stubborn young men manage to cut trees for other purposes. They have been caught on two occasions but when they could not pay the fine they were released subject to good behaviour. But I think on the whole the ban had minimised the rate of cutting. I know some women who started charcoal burning as business but they had to stop because of this ban." (General response from all groups)

University of Ghana http://ugspace.ug.edu.gh

"I have tried planting fruit trees on my farm but the trees are not growing well. I thought of the result as an issue of the area I am using to plant. Some friends have decided to help me out of the problem." (Group One)

"Some of us too have attempted the techniques/methods we learnt at the workshop but have not been successful. For example, I planted those shrubs or small plants around my house to ward off people's goats and chickens but these animals are still coming and the plants are not close as the branch fence wall used to be. My brother also attempted planting fruits trees on his farm but they were not successful." (Group five).

A comment from a female respondent was:

"*I was formally using fire wood for frying doughnuts to sell to the school children but since the ban I have tried to use LP gas which my daughter in the city bought for me and has been filling it for me from time to time." (Group Two)*

"I tried planting cashew and mango trees on my farm and even some around my house too. I didn't have all these plants around me. I even harvested the mangoes twice last year. I think the programme was helpful. We thank the people who came. They should come again". (Group four)

From these responses, an attempt was made at rating the various activities that showed that their attitudes towards the forest have changed since the educational intervention. The following was obtained.

Table 6:
Attitudinal change towards the forest

	Activity	Response/Frequency							
		Good		Fair		Low		Total	
		No.	%	No.	%	No.	%	No.	%
1)	Total ban on cutting trees for canopies, tents, occasions etc.	40	76.92	12	23.08	-	-	52	100
2)	Planting trees as fire belts	22	42.31	12	23.08	18	34.62	52	100
3)	Tree fence wall against livestock and domestic animals	32	61.54	11	21.15	9	17.31	52	100
4)	'ABOR DAY' tree planting as wind brakes	38	73.08	14	26.92	-	-	52	100
5)	Filling spaces in between food crops with fruit trees	19	36.54	22	42.31	11	21.15	52	100

UNIVERSITY LIBRARY

University of Ghana http://ugspace.ug.edu.gh

From the pattern of these responses it is clear that most respondents being farmers wholeheartedly embraced the programme and have been practising what they learnt. The 'ABOR DAY' being a day for tree planting can be said to have also been embraced very well. From the discussion it can be concluded that the community had had a change in attitude towards planting of trees. However it came up during the discussions that some community members despite the 'ABOR DAY' and the ban by the chief are still having negative attitudes towards the environment; especially in the area of sanitation and deforestation.

> *"On the whole we see most people practising what we all learnt at the workshop and on the demonstration farm but still there are some stubborn youngmen who are going against the word of the chief. Some were caught just few weeks ago and were lashed at the chief's palace and fined. But they couldn't pay. I want to know how we can change those people." (Group one)*
>
> *"They must be beaten or fined." (Group one)*
>
> *"When fined they won't pay so I'll suggest that they should be made to work on the chief's farm." (Group three)*
>
> *"When caught they should be lashed and also made to weed." (Group five)*

The researcher sought to find out from respondents the sort of action that could be taken against such recalcitrant people to get them to co-operate. Their reactions are tabulated in Table 7.

University of Ghana http://ugspace.ug.edu.gh

Table 7:

Punishment for Negative Attitudes.

Corrective Measure		Response	Percentage (%)
1)	Hard Punishment	15	28.85%
2)	Impose a Fine	7	13.46%
3)	More Public Awareness/Education	27	51.92%
4	Other Means (Counselling, Prayer)	3	5.77%
	TOTAL	52	100.00%

The general consensus was that there should be public education from time to time to remind community members about the responsibility towards the environment.

> *"Some are suggesting that such people should be lashed and set free because they are not working and can't get money to pay any fine. But I think they must be made to see some of the video films we saw, such as the devastating effect of deforestation and bush fires. If they see some of these for themselves they will think twice and change. I suggest therefore more public campaigns and education. " (Group one).*

> *"These boys were not part of us so they don't know the importance of trees. I think "FOE" should have more of such educational programmes from time to time". (Group two)*

> *"Some of us are of the opinion that the younger generation who didn't join us and other new settlers be made to see what we saw in the films. They don't know the consequences that is why they are misbehaving." (Group five)*

> *"These boys should be counselled and then engaged in some income generating activities or trade." (Group four)*

University of Ghana http://ugspace.ug.edu.gh

Groups three and four discussions also concluded that:

> *"Nobody in this village have money to be paying fines. These bad boys already are unemployed and have no money, their parents don't even have, how much more to pay as fines. I suggest that "FOE" should come again and educate the whole community just like how family planning people were around and talked to all of us – (women, men, boys and girls) everyone inclusive. If the video films are shown they will know the importance of trees and change their attitudes." (Woman respondent).*

All these people believed that there is no better way of changing a person than to let him know what he is capable of doing and helping him do it out of his own free will.

> *"I want to add to what everyone has said that such people should be counselled so that they will find some job to do. It is when they are idling around that they do these things". (oldest respondent)*

4.10 Benefits Of The Programme

Finally respondents were asked to comment on the general benefits received from the programmes. These are some responses from the various discussion groups.

> *" I think on the whole we have all learnt a lot from "FOE", forestry officials, rotary clubs who have been helping us with the planting and many more people. We are so thankful to all. Most of us are happy with the cool atmosphere prevailing these days despite the hot sunny days. It has been raining often in spite of the hot sunny days. At times it is so chilly in the evenings that you could find the old men in sweaters". (Group one)*

> *"Some of us are also happy that the programme has brought a new look to this village. The plantation is so beautiful that visitors are always coming in to have a look but we hope all those people will come to our aid in future. We are also grateful to the people that came to help us. Very soon we understand we can prune the branches of those trees as fuel wood and it will go a long way to help our women." (Group two)*

University of Ghana http://ugspace.ug.edu.gh

"We have also seen a great difference between now and the time the plantation was not there. At first we were having dusty winds, less rainfall and hot sunny days. But now all these have reversed for the better. Now I send home good harvest and my wife is happy about it. She immediately wants to go and sell at Madina." (Group three)

"Those of us who are farmers can also say that we have learnt new techniques and methods in planting. I can say we are 'graduates' in tree planting. We hope to transfer what we've learnt to our children." (Group two)

"There are frequent rainfalls. Our farms are yielding good crops now. It rains here at times without raining at Madina. We are made to understand that the mini forest created near the hills is giving us all these rains. The atmosphere is also cool of late. Thanks to the FOE programme." (Group five)

The comments from all the discussion groups about the mini-forests and changes in the climate patterns are indications that the programme was successful and had had an impact on the community.

However, suggestions from some groups indicated that more of such programmes would be very much appreciated. Immediate benefit from this project was being looked forward to. For example;

"Our women must be allowed to prune some of the older trees for use as firewood since its becoming extremely difficult to get firewood these days". (Group one)

"The initial agreement was that the trees would be pruned for firewood after two years but its over seven years now and we are not being allowed to cut the branches for firewood." (Group three)

"We will suggest that similar programmes in sanitation, health, malnutrition etc., be organised with film shows like the other ones for us in future. The younger generation need such education so much. " (Group five)

"In future programmes we'll suggest that our neighbouring villages be asked to join us since we are all one. We have been teaching them some of the techniques we learnt during these programmes." (Group two)

University of Ghana http://ugspace.ug.edu.gh

"We would also like to know more about plant nurseries, gardens, rain water collection, mulching etc., which can help make our village a tourist centre. I am saying this because a lot of white visitors and women come to this village and to the women centre too."(Group four)

"We would be glad if our women can be made to know more about food processing especially of agricultural products. We need more of such mobilization and education for the residents here." (Group three)

4.11 Institutional Analysis

The response received from "Friends of the Earth" (FOE) officials indicated that the main functions of the institution were the following:

1. To encourage people to know and appreciate the environment
2. To stimulate peoples' voluntary action to protect the environment.
3. To engage directly in activities and projects about the environment with community participation.

These functions are mainly achieved through education and training.

Educational and Training Methods: It was indicated in their response that the main methods employed in their dissemination of programme content were lectures, open forum, workshops, group discussions and at times radio broadcast. But the most preferred by participants/clients were workshops and open fora, which to them allowed them to practise participation. To enhance their learning, visual aid/video film, posters, flip charts and handouts were often used. Their training programmes usually lasted for one week.

Programmes and Participants: People with different backgrounds participated in the programmes. These included Farmers, NGO's, Women's Groups, Rural Communities and the General public. The programmes were often planned with the beneficiary group.

University of Ghana http://ugspace.ug.edu.gh

Follow-up activities: The institution carried out its follow-ups mainly in the form of workshops, seminars and refresher training courses for the local executives or opinion leaders. Follow up activities were usually a one-day affair.

The planting of trees as fire belts or fence walls is clear evidence. Some of the constraints they faced in carrying out their programmes included inadequate logistics, lack of funds and social factors such as illiteracy in some communities. They however admitted that their organisation could help carry out more education and training in the area of environment if they set up more advocacy campaigns and employed more trained personnel for the educational programmes.

4.12 Training at Abokobi:

The interview with the senior staff member of 'FOE' revealed that during the training programme at Abokobi resource persons were employed from the Forestry Department at Amasaman office. They actually took participants through the fieldwork and demonstrations on tree planting. Fieldwork was carried out in stages. It included land preparation before planting and collection of materials needed before and after planting such as tape measure, hay/dried grass for mulching, seedlings of particular sizes etc.

This was followed by the planting session. It included measurement of hole-depth, distance between two seedlings, time of watering seedlings and the general management of the growing seedlings. Education and training took six days but in practice the official from the Forestry Department was permanently

UNIVERSITY OF GHANA LIBRARY

University of Ghana http://ugspace.ug.edu.gh

attached to the project from his out-fit. He was to continue seeing to the rest of the planting and management of all the seedlings.

Various voluntary clubs such as the Rotary Club of Accra and others from time to time joined participants in planting more seedlings/trees. There were follow-ups by "FOE' every month to the plantation to measure the progress of the project. Currently ten acres have been cultivated and ten more acres are yet to be covered with trees.

Any evidence of participants making use of the education and training received could be seen by the following observation made by one field supervisor:

> *"They are highly responsive to environmental issues and community cleanliness as well as increase in environmental activities and awareness. There is the correct application of information and training guidelines as imparted to them during the workshops." (FOE staff)*

The interview responses indicated that the initial objectives of the programme had been partially achieved. Currently, the hillsides are covered with vegetation and trees reducing the gully erosions drastically. Periodic visits show the presence of the micro-climate desired from the mini forest. It was the woodlot issue, which was yet to be solved. Implementers are to regularise the pruning exercise. Evaluation of the participants response was rated as quite favourable.

University of Ghana http://ugspace.ug.edu.gh

CHAPTER FIVE

5.0 Discussion:

This Chapter aims at reviewing and examining the delivery of education and training programme by "Friends of the Earth". It will examine the impact of the programme on the lifestyle (attitudes) of the people and how beneficial it has been to them. It would eventually conclude on the initial objectives of the project to examine and find out what has been achieved.

5.1 Method of Education and Training:

The self-concept of the adult has several implications as to how adults are to be taught and how they also learn. Adults by themselves are rich resources for learning. As such in teaching adults emphases are placed on techniques that can tap their experiences. Methods, therefore, which are mainly interactive and more participatory are adopted for adult teaching. According to Knowles (1989) "Participation" and "Ego-involvement" are boldfaced words used in adult education with the assumption that the more active a learner's role is in the process, the more they are probably learning. Methods such as group discussion, the case method, the critical – incident process, simulation exercises, field projects, action projects, laboratory methods, consultative supervision, demonstration, seminars, work conferences, counselling group therapy and community development and many more (Knowles, 1989) are mainly adopted for teaching adults.

University of Ghana http://ugspace.ug.edu.gh

From the data analysis, it was obvious that some of these methods were employed in teaching the participants at the programme. "FOE" indicated that open fora, workshops, group discussions, lectures and sometimes radio broadcast were used in disseminating information to their clients. Of these, the most preferred were workshops, and open forum. According to the respondents at Abokobi, the most preferred methods of teaching were group discussions.

Responses indicated that the interactive and participatory manner of these methods was really appreciated. Participatory method of teaching and learning is known to help participants gain confidence and self-reliance. Open forum or discussions that are times of brainstorming exercises are also known to help participants express their views, weaknesses and strengths. This technique has a higher chance of leading individuals to behavioural/attitudinal change as compared to input-oriented or directive approaches such as lecture methods, which are individually oriented. Secondly, field work/demonstrations are also seen to be more realistic, practical and reflective of a normal way of life as farmers. Data analysis showed greater percentage of respondents being farmers and their past experience in farming made that teaching method very appropriate. It was therefore no new thing when respondents narrated that they saw themselves as working on their own fields. Furthermore, in any learning situation, the technique for imparting knowledge, its retention and recall (memory) is very important. That is why information assimilated through personal experience is better than information, which was read or heard (although the combination of the two can be retained better).

University of Ghana http://ugspace.ug.edu.gh

Again, the practical manner of training respondents to acquire skill in tree planting was bound to be retained faster than if they had been taught in a classroom. Such self-perceived experiences make greater impact on memory. Already these adults are known to have a richer foundation of experiences to which new experiences were being added. They can relate to the new learning which tends to take on meaning, as they will be able to relate them to their past experiences better.

Another major finding of the study was that, knowledge transfer whether in the form of information or skill is usually a matter of simplifying information and rendering it tangible in such a way that it will become easily comprehensible to the learner without losing too much of its information content, meaning or accuracy (Germann, 1995). Abstract and relative information are sometimes very difficult to deal with. Considering that the educational status of most respondents in the study was low, graphical representation using pictures and films in addition to the practicals was good communication media for them. It was not surprising then that great interest was shown in the video films and the posters as indicated in their responses. Positive learning situations have a reinforcing effect. People recollect situations and the knowledge imparted in it better and more willingly retained. Finally, it can be said that comprehension, assimilation and retention of the knowledge imparted were influenced by curiosity, personal interest and motivation of the respondents in the study. All these helped in the adopting of the new learning experience, which subsequently resulted in the change of attitude.

University of Ghana http://ugspace.ug.edu.gh

5.2 Influence of Education on Life-Style (Attitude) of Respondents

Educationist and training are expected to have brought about changes on the plane of knowledge, skills and attitudes. The tendency might be to concentrate efforts on transmitting knowledge or practical skills to the targeted group. However, the attitude of a person reveals what he/she intends to do while his knowledge or skills indicate what he/she is capable of doing. The application of what has been learnt brings us to the impact of the learning programme on the community. According to Davidoff (1987) when issues are important to people they scrutinise the message, relate the material to what they already know and then rationally evaluate their own positions. If what is thought is favourable, then the learners become persuaded and change their minds. As such new attitudes are formed which are long lived. Respondents in this study were faced with the issue of environmental degradation mainly in the areas of deforestation and bush fires as indicated in Table 4 which were of much concern to all of them. The intervention of an afforestation programme to solve their problem or minimise the effects which had a vicious cycle on their lifestyles was indeed a favourable and welcomed message, - they were ready to reform their attitudes for the better.

Furthermore, if the effects of deforestation and bush fires are to be related to what they already know and have experienced in past times then a rational assessment of their position actually calls for a change in attitude and behaviour towards the environment.

University of Ghana http://ugspace.ug.edu.gh

Psychologists have again researched and realised that there are factors that can bring about attitudinal change. These include:

- The source of message
- The message itself
- The audience or target group
- The content of the situation

The opinions expressed by respondents indicated that the source of the message (which in the case of the Abokobi Project was an official from the forestry department) played a vital role in moderating their attitudes. This was especially so among those that were not highly motivated at the beginning and those with low educational qualifications. The latter group were particularly activated when

a) The facilitator proved to be an expert or knowledgeable in the topic and

b) Attractive or likeable.

These qualities according to them are initially important as reinforcers of learning. It was later on in the programme that focus was placed on the message itself. Response from "FOE" indicated that experts or resource personnel from the forestry department at Amasaman were employed in their teaching and training programmes at the Abokobi project. Later these officials were permanently attached to the project to manage it and act as technical advisers for the community. It can therefore be deduced that the message delivered was from a right source with a right content well applicable.



University of Ghana http://ugspace.ug.edu.gh

Nevertheless, if well reasoned arguments are often persuasive and explicit in drawing conclusions, then with respondents responses that the programmes were very relevant, effective and interesting, the message seemed to have been acknowledged. Again the use of teaching aids such as posters, video films etc., which were highly recommended by respondents, gave credit to the message.

Associating messages with pleasant feelings also brings about persuasiveness or attitudinal change. Respondents' acknowledgement of participation on the field and free interaction with resource people are indications of pleasant feelings expected to bring about attitude change. Considering attitudinal change from the perspective of personal involvement, the target group was really made to do the work themselves. Accordingly, one common tactic is to anchor the new attitude to a reference group important to the audience. Once again it can be said that the video film showing other farmers around the world experiencing such devastating effects of deforestation and bush fires was an adequate reference point for participants to have changed attitudes towards the environment.

Cognitive dissonance theory which suggests that understanding discrepant behaviour may also change attitudes if actions conflict with ideas when people feel uncomfortable about it can come to play here. It is expected that the participants being farmers after watching these films would follow the pattern of change to restore consistency in their lifestyle. Finally the "ABOR" day exercise was a positive sign of attitude change.

University of Ghana http://ugspace.ug.edu.gh

5.3 Effective Management/Sustenance of Project

The expected change as a result of all these activities is the proper maintenance or sustenance of the project after "FOE"/forestry officials have completely withdrawn. This would actually show the success of the project. Factors which include participation/involvement of groups; empowerment of the group that is capacity to maintain the benefits of the project will sustain it. These factors can be achieved mainly through the problem solving capacities that beneficiaries have gained. Interview responses indicated that from the onset of the programme through out the period of activities, participant involvement was primarily the aim of organisers. They were involved in needs identification, objective setting and implementation. Discussions revealed their acknowledgement of resource people not looking down upon them but interacting freely with them. Respondents realised that they were the ultimate beneficiaries as farmers and so enthusiastically embraced the project as their own.

The training sessions on the field also demonstrated a lot of capacity building in the group, thereby empowering them. Human capacity development such as confidence and skills; knowledge and skills; management abilities were effectively instilled in them. Local community institutional capacity such as autonomy, supportive leadership and problem solving qualities were all made available to them so that they could carry the project into the future. These qualities were expected to build self-reliance and thereby sustenance of the project thereafter.

University of Ghana http://ugspace.ug.edu.gh

Again responses indicated that there had been a positive impact of the programme on the whole community and not only the participants. The initial objective outlined had been partially achieved; the hillsides had been afforested thereby reducing soil erosion; because of the plantation, the mini forest proposed to create the microclimate had also been established. The area had since been experiencing abundant rainfall with a cool serene atmosphere. Pruning of the trees to serve as woodlots for the inhabitants was the only objective yet to be accomplished. However, the implementers were planning to complete reforesting all the twenty acres acquired before pruning older trees.

University of Ghana http://ugspace.ug.edu.gh

CHAPTER SIX

Summary, Conclusion And Recommendations

Environmental problems such as deforestation and desertification of sub-Saharan Africa are assuming unprecedented dimensions which if not addressed through awareness creation, conscientization and acquisition of skills would not auger well for our common future. The current non-focused tree planting projects leave a lot of room for improvement. This prompted the researcher to find out in the study how an environmental education and training of a rural community towards deforestation was carried out to equip them with the necessary skills for a sustainable reforestation programme.

The introduction of the study highlights on the interrelationships and interactions that exist between man and his environment, which in the past used to be a harmonious one. But human activities and infrastructural developments of late have thrown the relationship out of balance and into jeopardy. The major factors underlining these practices included rapid population growth, poverty, income distribution and management policies. The importance of the forest in areas of economic, socio-cultural and ecological has over the years been highlighted. The importance of participation in adult learning and in problem solving is now universally acknowledged and its stages employed in several development projects worldwide.

In reviewing literature the concept of the environment was considered in its totality which included the natural or biophysical and man-made or socio-cultural

UNIVERSITY O LIBR

University of Ghana http://ugspace.ug.edu.gh

world. In brief, it describes how every living organisms coexist with both the biotic and abiotic world; their influences and way of life affecting one another in both directions. Land degradation or specifically, deforestation and the several factors assigned to it as the cause include agriculture, commercial exploitation of forest resources (logging and lumbering), concession lands for mining, tree cutting for fuel wood and cattle ranching. These are mostly felt in developing countries of Africa, Asia and Latin America where the open tropical rainforest is in abundance.

Human population growth has been identified as the direct relation to the exploitation of both the non-renewable and renewable natural resource consumption. Maintaining a critical balance between the existing forests and human activity is the predominant issue. Immediate economic gains are taking predominance over long term effects and this is having adverse effect on both man and other living organisms. To save our forests from total demise and still have some reserve for the economy calls for an implementation of a conscious, well-planned and sustainable re-afforestation programmes. The objectives of such programmes should be to create awareness of the environment and the sensitivity to it. Development of attitudes of ethical concern about the environment and motivating active participation in its protection require acquisition of skills that will enable identification, solution and anticipation of environmental problems. Approaches to solve such problems in other countries were reviewed.

University of Ghana http://ugspace.ug.edu.gh

A formative evaluative design using focused group interview was used in collecting data for the study, the reason being that the programme was in its mid-stage of completion with the educational and training having been delivered during the initial stages. A group of members from Abokobi a suburb of Accra was used for the education. A total of fifty-two members who were with the group during the programme implementation stages were purposively sampled and organised into five groups. Focused group discussion method was used in collecting data from them. Descriptive analyses were later used in analysing the results and these were done alongside with the objectives set for the study. The analyses sought to find out and assess the methods of teaching and training activities that took place during the period and after; the impact of the programme on the life style (attitude) of the participants and how the programme has benefited them.

Some of the major findings were the following:

1) There was an urgent need to combat deforestation and soil erosion which most respondents' livelihood depended on; as such the programme as an intervention was a necessity. This community-need therefore generated a participatory approach to environmental management from the people right from the onset of the programme. Since the organisers realised that the community wanted to know more about the causes and effects of their problem, educational methods, which could help impart awareness, knowledge, skills and new attitudes, were adopted in teaching them.

University of Ghana http://ugspace.ug.edu.gh

Considering the low educational status of most participants, formats such as field demonstrations, workshops and group discussions supported with video films, posters and visual aids for maximum retention of knowledge were used.

2) Another major discovery in the study was the participatory, interactive, action-oriented approach that organisers used in helping the people to get involved in solving their own problems. With the workshop and small group discussions participants of similar background worked together on the field, they could share strengths and weaknesses and deliberate on ways of solving those problems. The practical activity was a "learning by doing" exercise, which most adults of such status preferred. These adults were already experienced farmers and the active participation was sure to be a new learning process for change.

3) The learning that took place during the period of education and training was again seen to be of the people's own free will. The learning content was not imposed on them since there was community interest and need. There was mutual respect between learners and resource persons.

1) Another outcome of the programme was the idea of "strength" in learning together. The respondents developed power and creativity through working with one another. Collectively, they recognised their skills, abilities, interests and knowledge which helped them in solving their individual/community problems of bush fires and deforestation.

University of Ghana http://ugspace.ug.edu.gh

Support was derived from learning together, especially on the field and were encouraged with the openness and flexibility of the whole programme.

2) As success reinforces learning, the success of the initial planting session empowered many respondents to adopt similar practices on their farms and around their houses. Some even went a step further to teach their fellow farmers how to build fire belts and tree fence walls around their farms.

3) The results of participatory training which builds up initiatives in many human capacity building skills, self reliant skills, such as leadership skills, problem solving skills, self reliant skills and many more were all instilled in the respondents. They are now empowered for economic and social actions in the community.

4) The very act of their involvement in the planting process again created a sense of ownership and knowledge of the project. There is now the willingness to transform any future situation. According to respondents they are ready to take concrete actions.

The following recommendations are offered for improving further environmental education and training.

1) It was realised that although follow-ups were carried out by "FOE" during the implementation phase of the programme, periodic evaluation was not seriously considered during the formative stages. It is being suggested that participatory evaluation with target group be instituted in subsequent programmes and even during the rest of this programme to help with the

University of Ghana http://ugspace.ug.edu.gh

achievement of maximum efficiency and effectiveness. Evaluation at the end alone would not be enough, the formative would help prove whether learning had actually taken place or not. The learners must be involved with such a design.

2) Although incentives such as food aid and other logistics are essential for rural based programmes, it is hoped that they would not be considered as a condition for participation. The study revealed the situation whereby food aid and other logistics were initially being supplied on regular basis to the community which enticed almost the entire village to get involved with the project. But when these incentives were withdrawn the group number drastically fell. Caution must be taken with such supplies.

3) Whatever format an educational programme takes, one must ensure that all members of a community were equally represented. In the study women were less involved, but when striving to produce high levels of participation in environmental context, both men and women must be given the same learning experience. Our rural women have roles such as fetching firewood, water, gathering food, planting and harvesting agricultural produce etc., which can have large impact on the environment and therefore must be well informed.

4) Although methods used for this programme were responsive, "FOE" can include more effective types for rural settings such as drama, theatre, story telling, puppet theatres and even combinations of methods that

University of Ghana http://ugspace.ug.edu.gh

communicate best to rural populations. Of course there are many other ways to teach adults and the design must always suit the socio-cultural norms of that community.



University of Ghana http://ugspace.ug.edu.gh

BIBLIOGRAPHY

Acquah, P.C. (1997), "Overview of some Environmental Management Practices in Ghana" EPA . Newsletter Vol. 1. No. 6 EPA, Ghana.

Adekoya, A.(1991), "Environmental Education in Adult Literacy Programmes in Nigeria" in Hinzen,H. (Ed.) Adult Education and Development. No. 37. Pg. 69-74

Allen-Mills, et al.(1995), Cambridge International Dictionary of English. Cambridge University Press.

Ampadu- Agyei, O. (1988) "Bushfires and Management Policies in Ghana" in The Environmentalist Vol. 8 No. 3. EPA, Ghana.

Ampene, E.K. (1979) " Structures of Adult Education in West Africa " in Bown,L & Olu Tomori,S.H (Ed.) A Handbook of Adult Education for West Africa. Hutchinson and Co. Ltd. London. Pg. 43-58.

Casley, D.J. and Kumar, K. (1988) "The collection, Analysis and use of Monitoring and Evaluation Data. A World Bank Publication. The Johns Hopkins University Press. Baltimore.

...(1998) "Causes of Deforestation in Ghana FOELINE No. 10. Friends of the Earth, Ghana.

Clover, D.E. (1997) "From Words to Action; Environmental Adult Education" in Hinzen,H. & Samlowski,M.(Ed.) Adult Education and Development No. 49. Pg.120-122.

Davidoff, L.L. (1987) Introduction to Psychology 3rd edition. Mc Graw-Hill Book Company. New York.

... (1997) "A Look at EPA`s Environmental Quality Department" in EPA Newsletter Vol.1 No.6. EPA-Ghana.

Field, J. (1991) "Towards a Greener Adult Education" in Hinzen,H.(Ed.) Adult Education and Development No. 37. Pg.3-13.

Germann, D. (1995) "Conveying Knowledge in Pictures" in Hinzen,H. (Ed.) Adult Education And Development. No.44. Pg.39-52.

Gleitman, H. (1991) Psychology 3rd edition W.W. Norton & Company Inc. New York.

University of Ghana http://ugspace.ug.edu.gh

Goodman, J. and Adler, S. (1985) "Becoming an Elementary Social Studies, Teacher: A study of perspective" in Theory and Research in Social Education. College and University Faculty Assembly.

Gross, R. D. (1987) Psychology (The Science of Mind and Behaviour) Edward Arnold Publishers, London.

Haggis, S.M. (1991) "Environmental Education: A component of sustainable Development" in Education for All-Purpose and Content. UNESCO.

ICAE, (1993) "Treaty on Environmental Education For Sustainable Societies and Global Responsibility" in Hinzen,H. (Ed.) Adult Education and Development No. 40. Pg.127-139.

Jarvis, P. (1995) Adult and Continuing Education - Theory and Practice 2nd edition. Rontledge, Briddles Ltd., London.

Karottki, R. (1997) "Environmental NGOs and Adult Education as 21st Century Partners in Civil Society - From the Local to Global level" in Hinzen,H. & Samlowski,M. (Ed.) Adult Education and Development No. 49. Pg.114-116.

Kotahoire, A. (1995) "Evaluation Training for Adult Educators and Development workers in Uganda" in Hinzen,H. (Ed.) Adult Education and Development No. 44. Pg.33-38.

Klufio, G.M.S. (1983/84) "Land Use and Afforestation" from the 35th Annual New Year School on The Environment and National Survival".Unpublished article, I.A.E. Legon.

Knowles, M.S. (1980) The Modern Practice of Adult Education. New York.

Krech; D. Crutchfield, R.S.and Ballachey, E.L. (1962). Industrial in Society - A Textbook of Social Psychology. Mc Graw -Hill New York.

Kreis, B. (1991) "Resolution on Environment and Development" in Hinzen,H. (Ed.) Adult Education and Development No. 40. Pg.147-162.

Kulharni, S. (1991) "Deforestation, Tribal Communities and Popular Movements" in Hinzen,H. (Ed.) Adult Education and Development. No. 37. Pg.47-53.

Lahiry, D. (1985) "Environment - Its Origin and Native" in Environmental Education Module for In-Service Training of Teachers and Supervisors for Primary Schools. UNESCO-UNEP Environmental Education Series 6.

Laing, E. (1994) Ghana Environmental Action Plan Volume Two (2) E.P.A. Ghana.

University of Ghana http://ugspace.ug.edu.gh

Muller, J. (1993), "The action training model and its educational foundations" in Hinzen,H. (Ed.) Adult Education and Development. No 41. Pg.239-253

Nartey, M.K. (1998) "What are Forests?" in FOELINE Newsletter No. 10 Friends of the Earth - Ghana.

N`Gaba-Waye, A. (1997) "Environmental Adult Education; A factor in Sustainable Development on the Eve of the 3rd Millennium" in Hinzen,H. (Ed.) Adult Education and Development, No. 49. Pg.123-128.

NMEDAE, (1993), "Community Participation in Vegas de Chili and la Selva (Tolima, Columbia)" in Hinzen,H. (Ed.) Adult Education and Development. No.40. Pg.363-369.

Oduro-Mensah, D. (1992) "Environmental Education and Awareness creation through Adult Education. - Suggestions from Ghana" in Hinzen,H. (Ed.) Adult Education and Development No. 39. Pg.251-260.

Oppong, J.E. (1995) "Desertification in Northern Ghana" Paper presented at Northern Easter School. Unpublished material IAE, Legon.

Patton, M.Q. (1980) Qualitative Education Methods Sage Publications, Inc. London.

...(1998) President Rawlings Commissions New FORIG Building" in CSIR Newsletter No. 4. CSIR. Ghana.

Razak, M.A. (1991) "Reforestation and the Needs of people living in and around India`s National Parks" in Hinzen,H. (Ed.) Adult Education and Development No. 37. Pg. 40-42.

Reichoff, J.H. (1991) "The Destruction of the Tropical Forest - A Global challenge" in Hinzen,H. (Ed.) Adult Education and Development, No. 37. Pg.15-21.

Shrivastava, O, (1989) "Participatory Training – Some Philosophycal and Methodological Dimensions" in Hinzen,H. (Ed.) Adult Education and Development". No. 32. Pg.3-20.

Sills, D.L. (1972) International Encyclopaedia of the Social Sciences. vol. 6. The MacMillan company , New York.

Sinha, S, Jangira, N.K. and Das, S. (1985) Environmental Education: Module for Pre-Service Training of Social Science Teachers and Supervisors for Secondary Schools. (UNESCO – UNEP).

University of Ghana http://ugspace.ug.edu.gh

Stein, R. (1993) "Papua - New Guinea: Sustainable Rain forest Cultivation and Environmental Education" in Hinzen,H. (Ed.) Adult Education and Development. No. 40. Pg.117-125.

Strahler, A.N. and Strahler, A.H. (1977) Geography and Man`s Environment. John Wiley and Sons, New York.

Titmus, C.J., (1989), Lifelong Education for Adults. An International Handbook. Pergamon Press, Oxford.

Voahita, B. (1991) "Threats to the Tropical Forests of Madagascar: in Hinzen,H. (Ed.) Adult Education and Development, No. 37. Pg.35-39.

Wagner, R. (1971) Environment and Man W.W. Norton and Company New York.

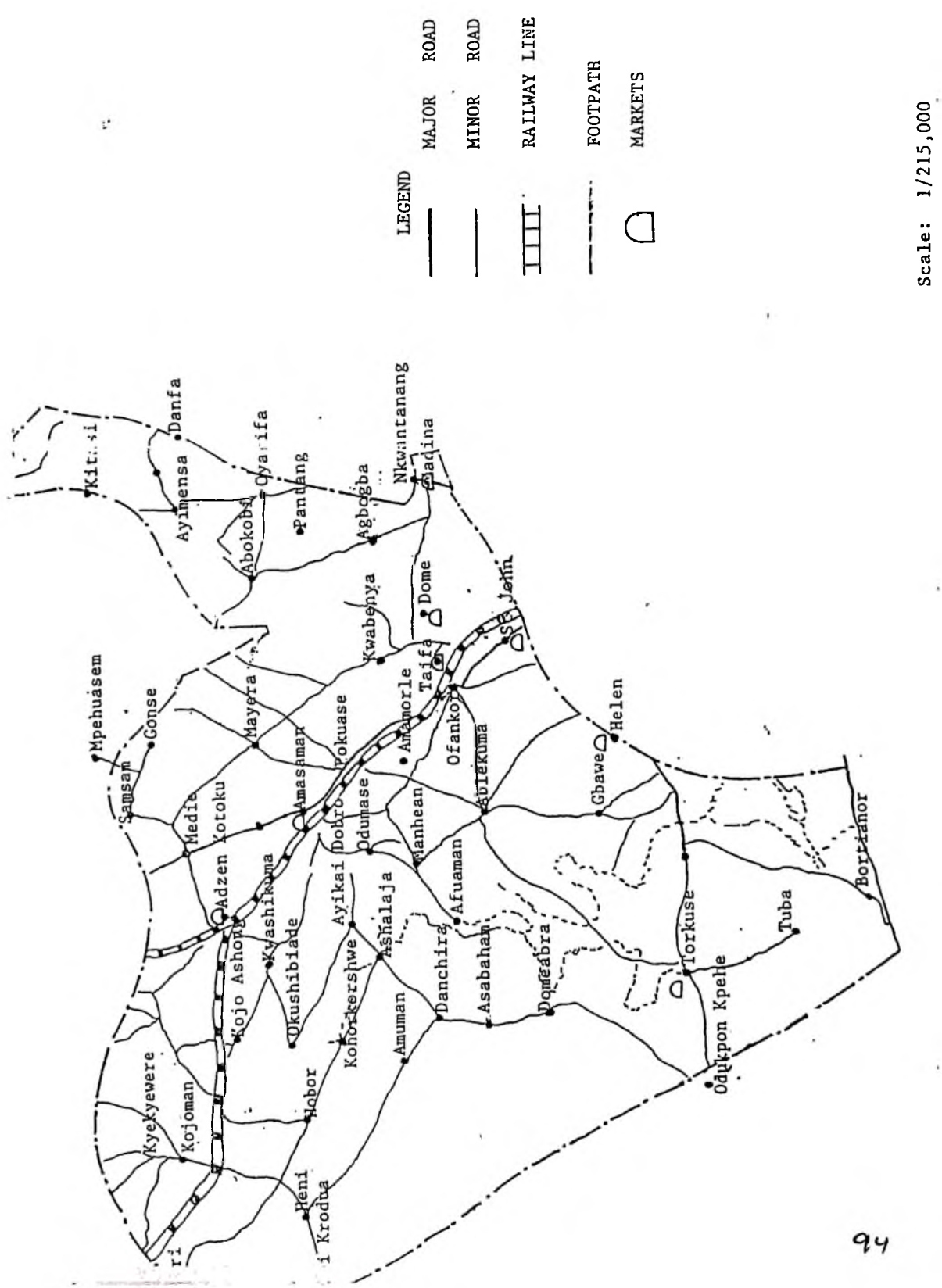
... (1997) "Golden Questions" FOELINE Newsletter No. 9. Friends of the Earth – Ghana.

UNIVERSITY OF GHANA LIBRARY

University of Ghana http://ugspace.ug.edu.gh

APPENDIX A

MAP OF GA-WEST RURAL DISTRICT



University of Ghana http://ugspace.ug.edu.gh

Appendix B

Unstructured Interview Guide for Focused Group Respondents

Personal Data

Reference No./Group #:

Age:

Sex:

Educational Background:

Occupation:

In what ways were you knowledgeable about the environment and its degradation before "Friends of the Earth" (FOE) came to your assistance?

Probes:

a) By what means? (Radio, TV. Friends, Newspapers.)

b) What were some of the reasons that made you seek their help?

c) How was the attitude of the Community towards the environment before FOE came in?

What forms of educational methods were used in teaching you about the environment and its conservation?

Probes:

a) From what you know how would you describe the programme? (Relevance of course contents. Teaching aids & methods)

b) How were you mobilised and organised? (Location/organisation, process)

c) Would you recommend any other approach of teaching you?

University of Ghana http://ugspace.ug.edu.gh

What aspects of the educational and training programmes did you find particularly attractive or interesting?

Probes:

a) How would you rate the programme? (Effectiveness of methods used).

b) Were there any follow-ups after the educational programme?

What evidence do you have to show that members of the community have changed their attitudes towards practices that led to environmental degradation (deforestation)?

Probes:

a) Was the community impressed about the education and training received?

b) What do you think can be done about those who do not show interest in the educational and training programmes? (Participation or involvement)

In your opinion what benefits do you think the people or community have received from FOE? (What effect has the programme had on you?) Any more suggestions?

University of Ghana http://ugspace.ug.edu.gh

Appendix C

A Sample of Responses

Response Sheet For Group I

Date: 6-8-98

Meeting Time: 3.25pm – 4.30pm

General Data:

Number in the Group : Ten

Village: Abokobi (Group 1)

Ages: 39, 55, 50, 52, 40, 39, 82, 71, 38, 40

Sex : All male (10)

Educational Background

Up to Standard Seven - 3

Up to Primary Six - 4

No formal schooling - 3

Occupation:

Farmers 9

Unemployed 1

Ways of showing pre-knowledge of environmental degradation:

- The big trees that we used to hold meetings under have all been cut down by the young men in the Village.

- It has not been raining as it used to.

University of Ghana http://ugspace.ug.edu.gh

- Our farms were being burnt by hunters from the city especially from Nima.

- Soil erosion after rains along the road side/hillsides

- There are lack of rains and our crops were yielding poorly

- There is too much dust during the dry seasons. When the wind blows you will actually see it carrying dust with it.

- When it rains too you really see the flowing water carrying soil away.

Probes: How did you become aware? Through what means?

- We were seeing some ourselves; such as the dusty winds and rainwater carrying the soil away.

- When the wind blows you see it with dust.

- I really felt sad upon my return from Nigeria to see that the village was looking so bare. When we were young, you could see snails crawling out from the bushes around after rainfall. But now there are no such scenes. My people have really been wicked to the forest.

- When it rains heavily which is usually the case because we are very close to the hills you will actually see the soil being washed off. That is why you saw our roads like that.

- We have enjoyed our stay on this planet with all the greens around us. Food in our time has not been difficult to come by. Some of these big

UIT UNIVERSITY

University of Ghana http://ugspace.ug.edu.gh

trees which are now stumps used to be a meeting place for the men of this village but now that all these trees have been cut we have no where to sit and while away the time. Sometimes I wonder what sort of village my grand/great grand children will live in. I wish I would be given the chance just to come and peep to see how the place is looking like.

By what means e.g. TV, Radio, and Newspapers:

- Most of us don't have radios or televisions.

- The village community centre used to have a radio box.

- We were learning a lot from those radio programmes on G.B.C. radio one – titled "time with the farmer" and "farmers forum". We used to learn time for planting, and how to plant various crops. We even learnt the various problems facing farmers in different parts of the country. We were warned especially during the dry season not to smoke or set fire any where near our farms since bushfires were rampant during such periods.

- Various crop diseases and their remedies were explained during those programmes. In fact we were very sorry when the radio ceased to work and now there is nothing of that sort at the centre again.

Pre-Attitudes Before Intervention

- Most of us thought and knew that trees grow naturally by themselves so we were just cutting.

- We didn't care the way we cut down trees. We felt that so far as we needed them we could cut them.

University of Ghana http://ugspace.ug.edu.gh

- Special occasions and sunny days were times that the youth made tents and shelters to enjoy themselves so we never saw anything wrong when they were cutting trees during that period.
- In the olden days we learnt that you have to burn the farm before the next planting season so that the crops will grow well.

Methods Of Teaching/Training

- Some of the methods used in teaching us were
  - Group discussions.
  - Open forum.
  - We were taken to the field and they demonstrated to us how to plant seedlings.

Which ones were your preferences?

Field demonstrations	-	(9)
Workshops/group discussions	-	(6)
Open forum		(4)

Was the course relevant to you?

- It was very relevant to us because we are farmers and were concerned about the lack of rains.

- It was important to us because it made us to understand the environment well (Question; In what way?).

- **How the forest helps rainfall to form and provide soil fertility.**
- The course was relevant and appropriate because our crops were yielding poorly and the farms were being burnt too.
- I have acquired a new skill to protect my farm from fire that is building of fire belts, which I didn't know at first.

University of Ghana http://ugspace.ug.edu.gh

- At the workshop we were shown pictures on how forests are being depleted in different parts of the world as a result affecting farmers. It was indeed frightening.

Aspects attractive and interesting

- I liked the way we were taught to take care of the young seedlings/plants like our own babies, show them love and care, water them morning and evening, cover the base with mulch and even talk to them.
- I also liked the way we mixed up with the officials from forestry and FOE. How they shared ideas and experiences with us. They didn't look down on us. They realised that we also knew some farming methods, using footsteps to measure distances.
- It was interesting to learn that you don't have to mix different trees when planting. For example that eucalyptus trees don't mix with other trees. Very interesting, they are special types of trees (Racism in the plant kingdom).
- We also learnt on the field that you don't plant anyhow but must measure the depth of hole before putting in a seedling.

How did you find the programme? (Effectiveness)

- The programme was good. I liked the video film they showed. You could see what was happening in other part of the world – the destructive nature of bush fires.
- I also liked the posters and flip charts they showed us.
- The steps used in teaching us how to plant trees – i.e. they made us to do it ourselves when they demonstrated just one to us.
- Because of what we saw in the films we are planting trees around our farms to stop any fire reaching our crops.

(The rest agreed with all that the others have said.)

University of Ghana http://ugspace.ug.edu.gh

Follow-Up

- They have been coming to see the plantation. There is always someone from Amasaman forestry Department attached to the project, to also help us.

- They have been bringing white visitors around to see the project (you met one yourself yesterday).
- When they come they promise us more seedlings for planting but not food aid and money.
- The incentives like food aid have all stopped when they saw that the trees were now growing nicely.

Evidence of attitudinal change

- Some of us had never known what they called fire belts but because we were taught at the workshop, now I have planted some shrubs around my farm to act as fire belts against any fire outbreak.
- I have planted some fruit trees such as mango trees in between my crops to act as shade on the farm.
- Some farmer friends who were not at the workshop because they saw us planting trees around our farms have done the same, and in my opinion I think we are practising what we learnt from the experts and from the film.
- On 'ABOR DAY', the gong-gong is beaten calling all inhabitant to join in tree planting. It is sometimes a free day for school children so they can join. Seedlings are supplied from Amasaman office for planting.
- Some of us have also planted shrubs like milk-bush plants around our homes as fence walls to ward off people's goats and sheep.
- On the whole we see most people practising what we all learnt at the workshop and on the demonstration farm but still there are some stubborn young men who are going against the chief's word.



University of Ghana http://ugspace.ug.edu.gh

Some were caught just few weeks ago and were lashed at the chief's palace and fined. But they couldn't pay. I want to know what can change those people.

- They must be fined.
- They must be caned.

Some are suggesting that such people should be lashed and set free because they are not working and can't get money to pay any fine. But I think they must be made to see some of the video films we saw; the devastating effect of deforestation and bushfires. If they see some of these for themselves they will think twice and change. I therefore suggest more public campaigns and education.

General Benefits from programme.

- Our farms are blooming because of the rains (you observed one yourself yesterday).
- I think on the whole we have all learnt a lot from 'FOE', forestry officials, rotary clubs and others who have been helping us with the planting and many more people. We are so thankful to them all. Most of us are happy with the cool atmosphere prevailing these days despite the sunny days.
- It has been raining often in spite of the hot sunny days. At times it is so chilly in the evenings that you will find the old men in sweaters.
- Most of us are happy about the cool atmospheres around the village. The sun is hot but we don't feel it much.

Any suggestions:

- We think our women must be allowed to prune the older trees for firewood since it is extremely difficult getting firewood. The initial agreement was that we would be allowed to cut after two years but it is over seven years now since we planted. If you enter the plantation now you'd be caught and fined.

University of Ghana http://ugspace.ug.edu.gh

- We would also like more of such programmes in future to help us live better lives.

Summary of effectiveness rating

Everyone in the group liked the teaching aids.

Rating;

Very effective	8
Effective	2
Quite Effective	0

ATTITUDINAL CHANGE TOWARDS THE FOREST

ACTIVITY	Response/Frequency		
	Good	Fair	Low
1.Total ban on cutting trees for canopies, tents on occasions	8	2	-
2. Planting trees as firebelts	6	1	3
3. Tree fence wall against livestock and domestic animals	8	1	1
4. 'ABOR DAY'	10	-	-
5. Filling spaces in between food crops with fruit trees	2	7	1

University of Ghana http://ugspace.ug.edu.gh

AREAS OF DEGRADATION OF MOST CONCENRN TO RESPONDENTS

Ranking	Frequency
1. Deforestation	6
2. Bushfires	3
3. Soil Erosion	1
4. Sanitation	0

University of Ghana http://ugspace.ug.edu.gh

Questionnaire for the Organisation charged with Environmental Education and Training (EET)

General Background :

1. Name of Institution

.....

2. What are the main functions of the institution?

.....

.....

.....

.....

Educational Programmes

3. What methods of education do you employ in the dissemination of programmes?

(a) Lecture (b) Open Forum (c) Workshop

(d) Group discussion (e) Other

(please specify)

4. Which methods do you mostly use?

.....

.....

.....

UNIVERSITY LIBRARY

University of Ghana http://ugspace.ug.edu.gh

5. Why is that method preferred to the others?

.....

.....

6. Which of the methods do you think are most favourable to the people?

.....

7. Do you use any teaching/learning aids?

Yes No (please tick)

8. If yes, please elaborate

.....

.....

9. If No, Why ?

.....

.....

10. Is the organisation involved in any training activities? Yes No

(Please tick)

11. If yes, how are they organised?

.....

.....

12. Which people participate in your programmes?

University of Ghana http://ugspace.ug.edu.gh

(a) Farmers (b) The General Public (c) Miners

(d) Other (Please specify)

13. Do you make any feasibility studies/enquiries to find out what the people need before going to them? Yes No

14. If yes, do you give them prior information before visiting them?

Yes No

15. How do you plan your programmes?

a) Plan them and carry it out

b) Involve them in initial planning

c) Other (please specify)

16. How do they patronise your programmes?

a) By informing other people

b) By organising the place of meeting

c) By contributing to discussions

Evaluating the Programmes

17. How will you rate the people's response towards the programmes, taking your methods into consideration?

a) Favourable b) Quite Favourable c) Unfavourable

18. Do you carry out any follow-up activities after the educational programmes?

Yes No

University of Ghana http://ugspace.ug.edu.gh

19. What are the nature of the follow-up activities conducted?

.....

.....

.....

20. During your follow-up was there any evidence to suggest that the participants to your earlier programmes made effective use of the education you gave them?

Yes No

21. What evidence showed that the participants made use of the education received earlier?

.....

.....

.....

22. Do you carry out any follow-up activities after the training programmes?

Yes No

23. What is the nature of the follow-up activities?

.....

.....

.....

University of Ghana http://ugspace.ug.edu.gh

24. During your follow-up was there any evidence that suggested that the participants were making use of the training programmes?

Yes No

25. What evidence indicated that the participants were making use of the training received?

.....

.....

.....

26. Are there any organisation(s) performing similar functions in the area apart from your organisation?

Yes No

27. If yes, please list them.

.....

.....

28. How do their activities affect your programmes?

.....

.....

.....

University of Ghana http://ugspace.ug.edu.gh

29. What have been the constraints that hamper your organisation's ability to carry out environmental education and training programmes?

.....

.....

30. Suggest any other ways your organisation can help carry out environmental education and training

.....

UNIVERSITY OF GHANA LIBRARY