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SAINT MARY'S UNIVERSITY OF MINNESOTA/ USA

NAIROBI CAMPUS

**CHRIST THE TEACHER INSTITUTE FOR
EDUCATION (CTIE)**

**TOPIC: THE SOURCES OF ENVIRONMENTAL
INFORMATION AMONG STUDENTS**

A CASE STUDY OF CTIE STUDENTS

**A Research Project done in Partial Fulfilment of the Requirements
for the Degree of Bachelors of Science in Education.**

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Nairobi-Kenya

STUDENT'S DECLARATION

I, the undersigned hereby declare that this project is my original work and has not been submitted to any other University or equivalent institution for academic credit.

All sources and material used have fully been acknowledged.


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This project has been presented with my approval to the Supervisor.


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ABSTRACT

This study sought to establish the sources of environmental information among the students of CTIE. The objectives of the study included: finding out sources of information about the environment among the students of CTIE. It also aimed at examining the relative influence of the Environmental Studies Course on students' behaviour and perception about the environment.

The sample consisted of students from CTIE (from 1st years to 4th years). The data presented in this study was obtained through the use of a questionnaire administered among students. Libraries were also source of the information for the study. The data was then analysed by use of descriptive statistics, frequency tallies and content analysis. Tables and charts were used to present the data.

Results of the study indicate that, students of CTIE have varied sources of environmental information, these include: the Environmental Studies Course, Radio and Television, the United Nation Environmental Programme (UNEP), Newspapers, Magazines and the Internet. The study also revealed that the Environmental Studies Course is the main source of information about the environment among students of CTIE. It is also indicated that the perception and behaviour of CTIE students about the environment changed positively after having done the Environmental Studies Course.

It is recommended that UNEP should work hand in glove with the makers of the curriculum in schools to strengthen the Environmental Studies Courses. Also, that the government should give subsidies to Universities, Colleges, and Schools to increase environmental awareness. Furthermore, at CTIE more environmental courses should be added. Finally it is recommended that other non-governmental organisations, should actively participate in imparting information about the environment.

DEDICATION

To my primary educators: my mother Esther and my father Hazel (late), and my very close associates: the Machaya family members.

In memory of my late brother Handgod.

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There is a proverb translated from Shona Language that says, “kusatenda huroyi” literally, “Not thanking is bewitching.” Deeply rooted in the Shona culture, I sincerely register my thanks to the following: Firstly, I am greatly indebted to my lecturer and supervisor Mr. D.M. Gaiti, for his patience and effort in reading this work. For your unbounded support ‘Mwalimu’ I thank you.

Secondly, I thank all the students of CTIE who generously spared their time to respond to my questionnaires. Without your help, this study could have been fatal ‘a non starter.’

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LIST OF ABBREVIATIONS

- CTIE:** Christ the Teacher Institute for Education
- CUEA:** Catholic University of Eastern Africa
- GEMS:** Global Environmental Monitoring System
- HABITAT:** United Nation Centre for Human settlement
- IFAD:** International Fund for Agriculture Development
- NGO:** Non-Governmental Organisation
- UN:** United Nation
- UNDP:** United Nation Development Programme
- UNEP:** United Nation Environmental Programme
- WHO:** World Health Organisation
- WWF:** World Wildlife Fund

CHAPTER ONE

1.1 BACKGROUND TO THE PROBLEM.

There is a great need to educate everyone in the care of all created things, big, small, ugly and beautiful, useful and ornamental (WAJIBU, Vol5, No.4 1990). This is what is embodied in the conservation of resources. In 1898, the concept of resource conservation was introduced. It confirmed that people are the problem in the environmental crises: people can also become the solution. However, what is necessary is that, people be made aware of environmental issues affecting them in their local, national, regional and global surroundings. Factual information on environmental problem is now very accessible in the mass media and is included in the formal educational curriculum of many nations. Thus, the international organizations such as the International Fund for Agricultural Development, the United Nations Development Programme, the World Wildlife Fund and the World Bank are all making environmental awareness more central to their programs. Nevertheless, how many of these sources about environmental information have reached students? This is the hub of this study; to find out the sources of environmental information among CTIE students.

J. Tivy and G. O'Hare (1992) observed, "Every species needs (for continued survival) information about the habitat in which it lives." Human beings, in this respect, are no exception. However, they differ from other species with regard to the sort of environmental information they require; they need more information for their

survival, and for the survival of other species too. Lastly human beings can collect, store, protect and recall information.

It is ever more apparent that humanity has been living with grand delusion: that we can go on consuming the planet's resources forever. The escalating degradation of the environment all over the world has posed a challenge on the entire humanity through its adverse effect on human health, aquatic life, food production and global climatic change. Pressure is raising on governments, non-governmental organizations and communities to protect the environment and introduce sustainable development for example UNEP. Environmental perception enables people to identify the interrelationship between positive and negative processes such as pollution, desertification, soil erosion and conservation of the environment.

The annihilation of the vulnerable resources of air, water, soil and others is a world disaster. People are desperately in need of information about the environment; thus, there is race against time in trying to impart this information. Without environmental information, human beings may not fully contribute positively to the development of the world. Given such a situation, one wonders what sources of environmental information among students are.

1.2 STATEMENT OF THE PROBLEM.

The researcher intends to undertake this study to identify the sources of environmental information among students. The belief of the researcher is that,

people measure and write about the environmental problems that they were trained to see, hence the quest on the sources of environmental information among students.

Due to the challenges that the environmental degradation has posed to the world, governments and non-governmental organizations are working tirelessly to sensitize people, particularly students about the importance of environmental awareness. Literature review shows that studies on the need to impart environmental information to people and particularly the students have been conducted. Furthermore, they show that there are many sources of environmental information that reach the students, for example Environmental Studies Course, media and others. However, this particular study tries not to take things for granted, it focuses on the sources of environmental information among the students of Christ the Teacher Institute for Education (CTIE). Since the CTIE students already have access to Environmental Studies Course, the researcher would like to find out whether this is the main source of environmental information they have or, there are others.

Some people may not really know that the environment is being mismanaged, so unless they are told, shown or alerted, they might not see it until a tragedy strikes, and this will be too late. So this study intends to focus on the sources of environmental information the students have. The researcher feels that unless one identifies what people have, one might not move to solve the problem successfully. The aim of such movements is to alleviate the environment that is heading to annihilation. It is against this background that this study endeavors to investigate the sources of environmental information among the students of CTIE.

1.3 OBJECTIVES OF THE STUDY.

The study focuses on the sources of the environmental information among the CTIE students.

There are two objectives, which are:

- (i) To find out the sources of information about the environment among the students of CTIE.
- (ii) To find out the relative influence of the Environmental Studies Course on information about the environment among the students of CTIE.

1.4 RESEARCH QUESTIONS.

This research attempts to answer the following questions:

1. Which sources of information about the environment do students of CTIE have?
2. Is there any influence by the Environmental Studies Course on the information about the environment among the students of CTIE?

1.5 ASSUMPTION OF THE STUDY.

The research assumes the following:

- (1) That there is a wide range of the sources of environmental information among students; these sources may include: the media, (Televisions, Radios,

Magazines Newspapers and Books), NGOs, UNEP agencies and the Environmental Studies Course.

- (11) That the Environmental Studies Course is the major source of environmental information among the students.

1.6 SIGNIFICANCE OF THE STUDY.

The aim of this study is to investigate the sources of environmental information among the students. The outcome of this study shall add onto the already existing data about environmental information among students. The results could also be used to evaluate, review and strengthen the value of environmental education at CTIE, by Non Governmental Organizations (NGOs) and at home based care. The data so generated shall create awareness among administrators and heads of institutions, lecturers, governments and NGOs on the importance of availing adequate sources of information about the environment to the people.

Since environmental degradation affects everyone, the findings of this study shall be of great importance in creating awareness on the sources of environmental information not only to students but also to developmental workers, policy makers, religious leaders and the whole of humanity. It shall as well widen the number of sources of environmental information to all those who shall read its findings.

1.7 SCOPE AND DELIMITATIONS OF THE STUDY.

The study is limited to the sources of the environmental information among the students of Christ the Teacher Institute for Education (CTIE) at Tangaza College. CTIE was chosen so as to get access to the students who do Environmental Studies Course. It would have been of much interest to get respondents from other institutions that offer such courses and even people who do not have access to such environmental education courses. But due to limited time, it will be practically impossible to conduct such a study in a wide area. Hence, the findings may not be generalized to all students of different Colleges and Universities. In this case, the study uses the sample from the students of CTIE. In the same vein, the study may be costly in terms of money and time. Considering the time the study was carried out, the 3rd year students had gone for teaching practice in different schools; hence the researcher had to get in touch with them through the post and some, were followed in their base communities.

1.8 DEFINITION OF KEY CONCEPTS.

This section comprises of a list of definitions of the key terms that were used in the research.

Environment: the whole sum of the surrounding external conditions within which an organism exists.

Ecosystem: a set of interaction of living and non-living things.

Species: a group of organisms able to breed and interact among themselves.

Environmental degradation: to spoil and destroy the beauty and quality of the environment.

Desertification: the advancement of desert conditions into non-desert areas.

Biotic: living things.

Abiotic: non-living things.

1.9 ORGANIZATION OF THE STUDY.

The study is divided into five chapters. Chapter one introduces the study by giving the background to the problem, the objectives, assumptions, significance and the delimitation of the study.

Chapter two gives the related literature review.

Chapter 3 discusses the design, sample and the methodological procedures.

In addition, Chapter 4 presents the findings of the study and their interpretation.

Finally chapter 5 gives summary, recommendations and suggestions for further research.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

Since the concept of resource conservation was introduced about a century ago, much literature has been written about the environment and environmental awareness. Many governments and non-governmental organizations have tried to impart information about the environment to the people. It is therefore the aim of this chapter to show what others have written about the environment and to show how far they went: the declaration of the bases of this study.

2.2 WHY ENVIRONMENTAL AWARENESS AND CONSERVATION.

Environment refers to all of the external conditions that affect an organism or other specified systems during its lifetime: everything outside a specified system. In the same vein, one would also talk about environmental degradation as referring to the depletion or destruction of some renewable resources by using it at a faster rate than it is naturally replenished. The quality and quantity of available resources or their non-availability has posed great threat to humanity. The world's increasing population and technological advancement, if not checked may lead to doom. The sensitive world's ecology requires a balance between its variable climate and the

utilization of its natural resources. In this regard people should be informed about the need for a chivalrous care of the environment.

The challenges associated with the dynamics of improving the standards of living of the rapidly increasing population in the fall of economic hurdles, such as budget deficits, reduced government spending, inflation and decrease in prices of raw materials have caused deterioration of the national resources. Having the above scenario therefore, human beings have acquired enough power to become the most potentially dangerous organism that the planet has ever hosted. This human desperation and default has reached a point where even the most striving visions lose their regenerating powers. However it is not too late, we are still capable of indignation about the things we should be indignant about and we can shape our society in a way that does justice to our hopes. It is from this viewpoint that the inquest for environmental awareness comes in.

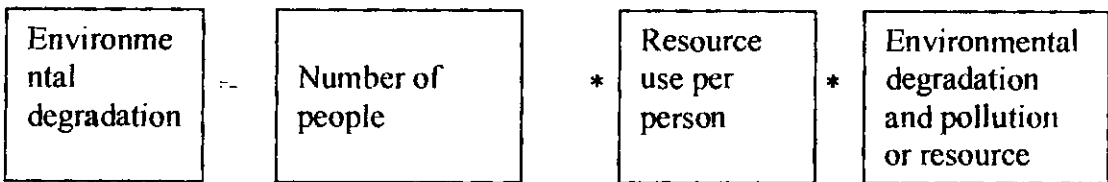
The other issue is about the human population growth. There is now the J-shaped curve of human population growth. This increase of population is an example of an exponential growth. Ironically, the resources are not increasing instead they are reducing. It means therefore that, we are now impairing the ability of the renewable resources to fully renew themselves. We have gone beyond the sustainable yield. The base supply of renewable resources has began to shrink such that some have become non renewable. This is the state of environmental degradation. The signs of this degraded state are: deforestation, water logging, salinisation, overgrazing,

desertification, erosion, depletion of plant nutrients, loss of wild life, and pollution.

There is also a phenomenon called the tragedy of the common.

The following is the simplified model of how the overall environmental degradation and pollution is caused.

The factors that affect environmental degradation and pollution:



This justifies the cause for environmental awareness spread. The researcher believes that the only way to avoid or reduce environmental degradation is by informing the people. There are two ways:

1. Preventive: this is by way of input pollution control.
2. "Treat the disease": this is the out put control i.e. deal with the wastes, recycle them, clean the air, burn the rubbish.

People do not know these preventive and control measures; hence they need to be informed.

In schools, Environmental Studies is taught for the following reasons:

- a) To promote beauty in our different countries.
- b) To know the interrelationship between animals and plants.
- c) To help pupils to identify things which pollute the environment.

- d) To help pupils realize the importance of personal hygiene.
- e) To promote the spirit of working together.
- f) To help pupils be aware of the need for clean environment that promote good health.

2.3 FOUR LEVELS OF ENVIRONMENTAL AWARENESS

According to Miller, J.R (1931), there are four levels of Environmental Awareness.

These include:

1. **Pollution and Environmental degradation;** at this level, human beings should discover the symptoms of environmental degradation. They then point out and try to stop irresponsible acts of pollution and environmental degradation. This should start from the individuals and organizations and then the rest. There should also be a change of life style.
2. **Consumption Overpopulation:** the realization that the cause of pollution is not just people but their level of consumption and the environmental impact of the various types of production. Hence there should be control of the world's population to reduce waste of matter and energy resources.
3. **Spaceship Earth "Shallow Ecology":** being aware that population and resource use will not be controlled until world leaders and citizens

stress that protecting and preserving the environment must be our primary goal.

4. Sustainable Earth (Deep Ecology) recognizing that all living things are interconnected.

It is from the above bases of the levels of environmental awareness that this study tries to find out the sources of environmental information among the students of CTIE. One becomes aware after having received the information. Hence what sources of environmental information do students have?

Environmental problems constitute a set of problems that we call global or worldwide problems. They constitute a category of facts or deadlocks to which after the Second World War, mankind was led, without noting it, in spite of the warning of the few scientists: until some of them became obvious and urgent. Pollution of the air and water: the accumulation of wastes, an increase in the concentrations of carbon dioxide and chlorofluorocarbons in the atmosphere. And also of Nitrogen and Sulphur compounds in the troposphere, and the climatic changes they cause, deforestation, erosion soil salination, the disappearance of non renewable resources and the scarcity of energy are usually enumerated among the problems.

In addition there are other problems, which have not called for attention yet. Most people have become aware of these dangers since they started jeopardizing human life on the planet; and in the case of some of them, after they started threatening the

welfare of the industrialized countries. However, this study tends not to take anything for granted that people have become aware of the environmental problems. It intends to dig deeper and come up with solid facts about the sources of environmental information students have.

R. Wagner (1974), in *Environment and Man*, shows that many colleges and universities have implemented the courses of general biology so that the graduates may have the idea of their fundamental structure and the physiological process that govern their lives. Such are useful courses yet; the critical question of the interaction of man with the lives and activities of other organisms and with the environment itself needs attention. He says man needs a sudden awareness of the magnitude of man-environment problems. Efforts have been made on many campuses to fill this curricular gap with courses that cover man-environmental relationship. Wagner added his copy for the same purpose. The researcher feels that not everyone has access to such books or taking such courses. Convincingly, there should be other sources that may add to this awareness like the Television, home based education through the NGOs, and government policies.

Edesio Fernandez, (1999 p.4), mentioned that, the multifaceted nature of the environmental process that has been reflected in the undertaking of original interdisciplinary environmental studies are means to inform people about the environment. The growing number of studies and sources of data – UNEP, UNCHS, World Bank, International NGOs (Friends of Earth, Green peace, etc) and

other national and international organizations have contributed to increasing levels of awareness of environmental realities in Africa.

Much literature that is written on environmental problems in the world generalizes about people's environmental awareness. They assume that people have the information about the environment. However, like David Satterthwaite (1990), we may agree that, people measure and write about the environmental problems that they were trained to see, hence the quest on the sources about the environmental information people have.

As the conclusion of the goals of the Nairobi World Conference of Philosophy (July 21- 25, 1991), Ioana Kucuradi, said:

“... to create a world free from fear and want; in the 21st century- if we feel ourselves responsible for future generations, we have together with all our other endeavors, to promote and broaden philosophical education which aims at making young people conscious of their human identity, and trains them to evaluate each case in itself in the light of human rights and in the knowledge of ethical value in general.”

This was a nice foresight by Ioanna Kucuradi, but, it is not known how much was done to create this awareness and by which means. The researcher is being propelled to shoulder this noble undertaking so as to come up with the sources of environmental awareness the students have. As philosophers we do not take anything for granted.

The 1966 Habitat II Conference in Istanbul made a great deal of the fact that cities, more often than not, are considered places where problems are concentrated; yet in

reality, given half a chance, people wherever they are, seek to improve their situation whenever possible. H. Girardet (1999) in *Environmental strategies* said, the future of cities crucially depends on the utilization of the rich knowledge of their people, and that includes environmental knowledge. It is from this that knowledge about such sources of the environmental information among students is needed.

2.4 MECHANISMS OF ENVIRONMENTAL ADAPTATION.

There are two basic ways by which an individual can adapt to an environment. These two ways are as follows as stipulated by Amos Turk (1974):

1. Genetic variation.
2. Learning.

Most animals learn through their life experiences, that way they alter their behavior accordingly. Thus, for example, dogs and cats learn to respond to their master's whims. Just like these species; man has developed this mechanism of adaptation however to an extraordinary degree. Man reasons in new situations; he possesses the accumulated knowledge from generation to generation. This accumulation and transmission of knowledge allows men to deal with environmental challenges beyond what other species do. This observation, in as far as it went, was excellent. However, it is from that observation that 'man accumulates and transmits environmental knowledge from generation to generation' that makes the basis of this study.

Opinions about the environmental problems are almost as numerous and diverse as the problems. These problems range from the alarming increase of population beyond the carrying capacity of the earth, to environmental degradation. Environmentalists mention such problems, and they claim that there is need to introduce environmental studies in the curriculum. Nevertheless, no attempt has been made so far to investigate on the sources of environmental awareness the students have. It is therefore from this gap in knowledge that this study is aimed at finding out the sources of environmental awareness the students are having. The researcher feels that it will be after knowing the kind of the sources of environmental awareness the students have, that NGOs and the Government of any country will be able to implement the sustainable environmental programme.

Gitan K. (2000) says that, "the recklessness within which the environment has been plundered in the twentieth century, makes one wonder if there will be any habitat worth talking about at the end of the twenty-first century, unless there is conscious effort now to reverse the trend of environmental degradation on a global scale." Having such an observation, he did little more to observe whether people have some source of environmental information where they can learn about the environmental problems. The researcher feels compelled to raise this issue.

Gitan K. (2000) also points out as one of his objectives that, the environmental education has emerged as an indispensable device through which ignorance on the environmental ethics may be overcome. It calls for an integrated approach that includes the governments, NGOs, Religious leaders, professionals and educational

institutions. This has pushed the researcher to come to the ground to try and investigate whether the students at the college both the lay and religious have such sources. His final recommendations, states that, "There is urgent need for Kenyans to be provided with environmental knowledge to access them on how to relate with God's creation in general." So, how shall we reach to the people?

In terms of increasing environmental awareness, education is a dynamic process aimed at improving our knowledge and understanding of the environment. There should be commitment to do something on the environment. The action involves the acquisition of the desired attitudes and behavior in relation to the environment. The aim is to make people aware of the processes and consequences of their activities on the environment. The urgency of environmental problems makes the need for environmental awareness necessary. As stated in the Wajibu volume 4 1990 that, "Various initiatives are being promoted to educate the global community on prevailing environmental issues. Education is a key process in development."

2.5 PUBLIC AWARENESS

This is one of the most effective measures of environmental management and conservation. Public awareness is disseminated through mass media and public rallies. Mass media outlets like radio, newspapers, brochures, magazines and posters are used to disseminate the message and educate the public on how to conserve and manage the environment. The public is educated through public rallies on the need to conserve the environment. The government of Kenya has conducted public tree

planting and gabion building for example in Machakos and Baringo district. Written materials like newspapers, brochures and magazines carry messages, which educate people on the measures, which should be taken to conserve environment. Environment related topics have been introduced in the school curriculum to educate students on how to conserve and manage the environment. There is also a body in charge of conserving and management at the community level and at district level. The District Officer in charge of environment does the co-ordination. At National level this is done under the office of the president-National tree-planting day.

2.6 THE ROLE OF UNEP

UNEP based at Gigiri in Nairobi, co-ordinates all matters pertaining to environmental management and conservation at the international level. When it became evident that the cost and complexities of safeguarding man from the effects of many different pollutants were increasing rapidly, the WHO started the health-related monitoring programme in the early 1970s. International environment cooperation was increased as a result of the UN conference on the Human Environment held in Stockholm in 1972. As a result of that conference the UNEP was created to:

1. Co-ordinate and strengthen the environmental activities in the UN system.

2. Monitor capability mostly in developing nations through technical cooperation, within this was formed Global Environmental Monitoring System.
3. Provide technical expertise, equipment, training, documentation and fellowship to help participating national agencies to develop and maintain adequate monitoring and data analysis capabilities. This data is useful on national level with the development of pollution control and prevention strategies.

All in all, various conservation measure are disseminated through public awareness and education, namely:

- a) Cultural conservation measures: providing farm management like crop rotation, mulching, strip cropping, contour, inter-cropping, afforestation, reforestation and agro forestry.
- b) Physical conservation measures: this includes various soil and water conservation like building of check dams, gabions and brushwood, constructing artificial water ways and cut drains.

2.7 SUMMARY

This entire chapter aimed at throwing light on the significance of spreading of environmental information and also shows ways through which information is being passed to students and other people at large. The studies have shown that there is

great need for the spread of environmental information. More so, from the studies cited, it can be deduced that organizations like UNEP, churches, governments, schools and media play a major role in the transmission of information. The question is how much of this information reach the students and how. The gap has been left to what specific sources of environmental information are among students.

A purely field work/ study in the next chapters serves as an answer to the questions: what sources of environmental information are among the CTIE students? And what is the relative influence of Environmental Studies Course? A case study of (CTIE) Tangaza College.

CHAPTER THREE

3.0 RESEARCH DESIGN AND METHODOLOGY

This section covers the description of the following: study area, data types and sources, sampling and data analysis procedures.

3.1 LOCATION OF THE STUDY

The study was carried out in Nairobi, Langata South. It was mainly based on Tangaza College (CTIE). Tangaza College is a Constituent College of the Catholic University of Eastern Africa. So as to have an intensive study, the researcher confined his study only to CTIE students. Environmental Studies Course is compulsory course to all CTIE students and hence all students have taken it.

3.2 RESEARCH DESIGN.

The case study method was used to carry out this Study. The data from the field was quantified hence enabled the researcher to analyze frequencies of occurrence of events, programme and their implementation. This helped the researcher to collect the information from the target students of CTIE.

3.3 DESCRIPTION OF THE SAMPLE AND SAMPLING PROCEDURES.

The study was conducted at Tangaza College a constituent College of the Catholic University of Eastern Africa in CTIE. The target population included all the 138 students of CTIE who have done Environmental Studies course. This includes 1st years, 2nd years, 3rd years and 4th years. To achieve quality data, the researcher used the sampling techniques. The sample was drawn from the 1st years, 2nd years, 3rd years, and the 4th years. 20 students from each class were randomly selected; and a questionnaire was given to them.

3.4 DESCRIPTION OF INSTRUMENTS.

The researcher used the questionnaire to collect data from the target population. The questionnaire method was used because of its effectiveness especially to the students considering that they follow different schedules at the college. Hence they answered during their spare time. The questions were related to the sources of environmental information among the CTIE students, and whether the Environmental Studies Course is the major source of environmental information. The same questionnaire was used for all the students. Secondly, the researcher used secondary sources. These included the data gathered from libraries, Internet and journals. The researcher also used the Camera to take some photos as representations of some well conserved environments and some, which needed urgent attention.

3.5 DATA COLLECTION PROCEDURE.

The researcher followed the following procedures. There was pre-testing of the questionnaire, making physical appearances in each of the student classes. Pre-testing was done so as to correct some unclear questions. After the pre-test, the questionnaire was revised. Subsequently, the data needed for the study was collected by way of administering questionnaires. Only one questionnaire was made for all the students. And to guarantee some level of high response, the questionnaires were delivered by hand. The first part of the questionnaire asked about the background information of the respondent like the age, religious or lay, year at the college etc, while the second part asked about the sources of environmental information the student has. To complete the questionnaire, the respondents were asked to read the questions and tick [✓] appropriately against what applied to them from the closed ended questions. They were also asked to answer clearly the open-ended questions.

3.6 DATA ANALYSIS PROCEDURES.

This section presents the results of the discussion and the findings. Data analysis was done through both the descriptive statistics and quantitative method. The quantitative method included the use of tables, frequency and percentage. Each response was tallied against its corresponding alternative chosen by the respondent to obtain frequencies from which percentages were calculated, integrated and discussed in chapter four. These were presented in tables. The information from the statistics was also used to draw the conclusion.

The researcher used the following formula for analyzing the data and computing the percentages:

$$\frac{X}{N} * 100 = \%$$

Where X represents the number of respondents,

N represents the total number of questionnaires analyzed.

CHAPTER FOUR

4.0 PRESENTATION OF FINDINGS, DISCUSSION AND DATA INTERPRETATION

The following is the presentation of analysis and findings of the data collected from the students of CTIE about the sources of environmental information they have as well as the relative influence of Environmental Studies Course on the information about the environment among the students. This also involves the interpretation of the data in order to examine the relationship between the assumptions and the findings and finally come up with the reliable conclusion.

4.1 ASSUMPTIONS AND THE OBJECTIVES OF THE STUDY

The study has two objectives:

1. To find out the sources of information about the environment among students of CTIE, it was assumed that the students have a wide range of sources of environmental information.
2. To examine the relative influence of Environmental Studies Course on information about the environment among the students of CTIE. It was assumed that the Environmental Studies Course is the major source of environmental information among the students of CTIE

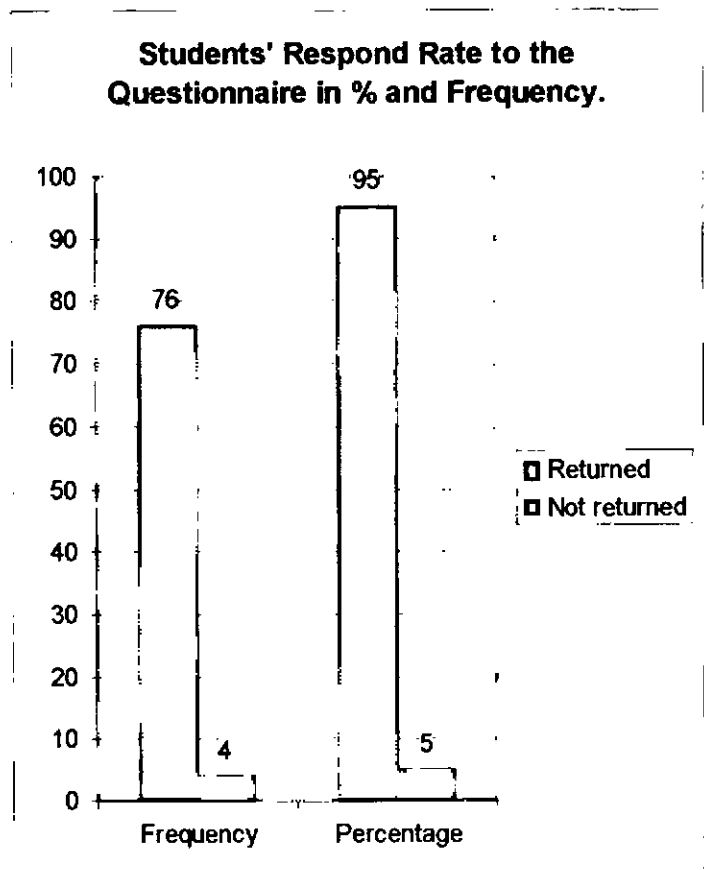
Each item of the questionnaire was tallied in a frequency table. The frequencies were converted into percentages and the results were tabulated and interpreted.

Charts were also used to present the findings, and the results were then discussed. The following is the presentation and interpretation of the findings.

4.2 RESEARCH FINDINGS

The study sample consisted of 80 students from (CTIE) Tangaza College. Out of the 80 questionnaires, which were given out, 76 were filled and returned. This is a respond rate of 95%. This is shown by the Figure 4.2.1 below.

Figure 4.2.1



Interpretation

From the Chart above, the analysis of the data shows that the percentage of the questionnaires, which were filled and returned, was very encouraging. This shows how students of CTIE encourage each other in their different studies. It is from this positive responds that the researcher is able to conclude concretely on the sources of environmental information among the students of CTIE, and also to draw a conclusion on the relative influence of Environmental Studies Course, on students' behaviour and perception of the environment.

Background information.

The researcher asked of the students' background information; this helped the researcher to conclude on the possibility of some students having access to a good number of sources of environmental information. Thus the researcher wanted to know about students' Christian vocations i.e. whether lay or religious.

Table 4.2.1. Vocation; (Lay or Religious) by frequency and percentages.

| Respondents | Frequencies | Percentage |
|-------------|-------------|------------|
| Lay | 9 | 11.8 |
| Religious | 67 | 88.2 |
| Total | 76 | 100 |

From the statistics presented in table 3 above, it is clear that CTIE students are mainly religious. This is so because Tangaza College is a Catholic institution and

originally it was meant for the religious students but now it is open to the lay students, however, the number of the lay students has not increased much. It is this religious background of the students that contributes much on the diversity of the sources of environmental information. Different religious communities have Newspapers on daily basis, and have Magazines, Televisions, and Radios from which information about the environment is got. Hence being a religious could be a major contributory factor to access variety of sources of environmental information.

4.3 STUDENTS' UNDERSTANDING OF THE MEANING OF THE TERM 'ENVIRONMENT'

Knowledge on environmental awareness was assessed by asking the students to define the term 'Environment'. The assumption here was that; Students may not define what they do not know. At this point, the researcher got assured that the Students have the knowledge about the environment.

Table 4.3.1 The whole sum of external surrounding condition within which an organism exists.

| Category of respondents | No of respondents | Frequency | Percentage |
|-------------------------|-------------------|-----------|------------|
| 1 st years | 20 | 20 | 100 |
| 2 nd years | 20 | 20 | 100 |
| 3 rd years | 17 | 17 | 100 |
| 4 th years | 19 | 19 | 100 |
| Total | 76 | 76 | 100 |

Table 4.3.1 above shows that 100% of the respondents showed a competent knowledge of the meaning of the term environment. They all portrayed the knowledge of the term environment that is not human centred but which include both the biotic and the abiotic. This kind of environment favours the interconnectedness and mutual relationship of all things. From this point of view, it is clear that the students of CTIE have the knowledge about the environment. However what is not clear is, where exactly do they get this knowledge? This is the hub of this study: To investigate on the sources of environmental information among the CTIE students. And also, whether the Environmental Studies Course has a relative influence on their behaviour and perception on the environment. Thus the researcher went on to ask; what sources of environmental information do students have. Firstly, Is it the Environmental Studies Course?

Source of environmental information among the students of CTIE

Environmental studies course as the major source.

It was assumed that the Environmental Studies Course is the major source of environmental information among the CTIE students. This assumption came up because at least this course is compulsory to all the CTIE students. With or without any other source of environmental information, the students have access to this source. Therefore it was necessary to ask the students whether this Course was the major source of their information about the environment. The outcome of this investigation is presented on figure 4.3.1 and table 4.3.2 below concurrently.

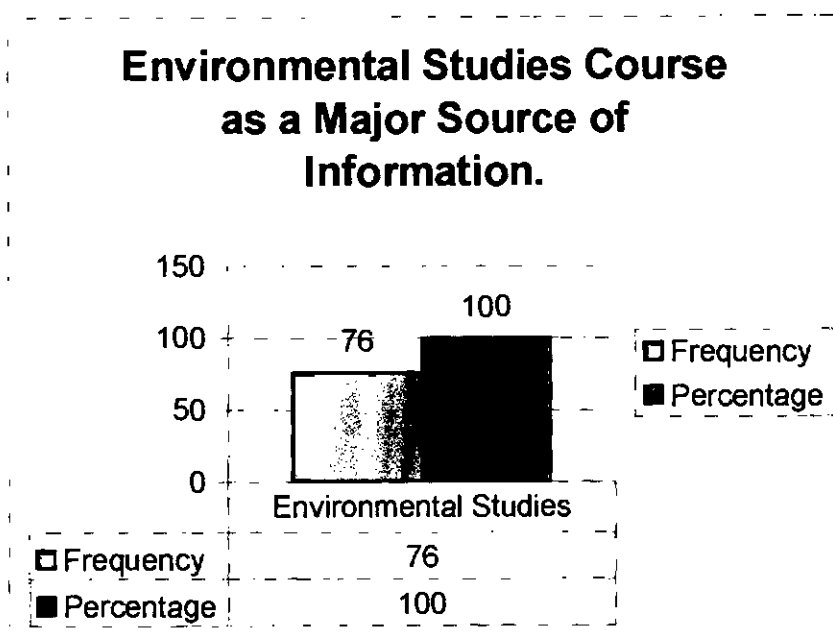


Figure 4.3.1 and Table 4.3.2.

Figure 4.3.1 and Table 4.3.1 above alongside show that all the students unanimously agreed that the major source of environmental information through which they get

much of their information about the environment is the Environmental Studies Course they have done at CTIE. The CTIE curriculum requires that all the students who are pursuing education, regardless of their different majors (English, Geography/history or Mathematics), have to take the Environmental Studies Course as one of their required Courses to graduate with a certificate. This shows that educators have joined in the race against time in trying to impart knowledge about the environment. The rate at which our environment is being ruined is causing great concern. Those who set the curriculum at CTIE like any other Institute of Higher learning have realised that the environmental problems affect all sectors of human life; hence much resources are being invested in environmental awareness. It is with this regard that the Environmental Studies Course is proven to be the major source of environmental information the students have.

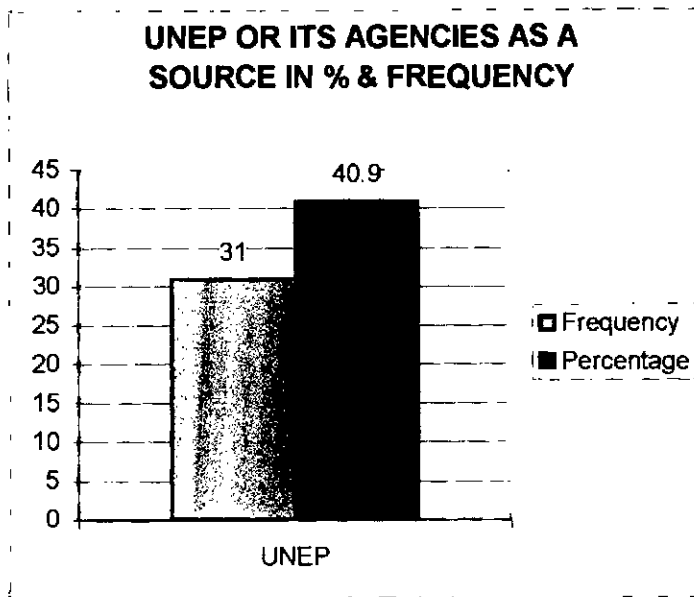
Also, the Environmental Studies Course is the dominant source because of its diversity in approach. During the Course, the students are given both theory and practical work. During the practical the students have field work/ trips to different places for example the students go to Ngong forest where the natural environment is being protected by the government of Kenya. This brings to the students' attention on how the environment ought to be. They also go to places where the environment is severely under threat from human activities such as overgrazing for example in Maasailand, water hyacinth like in the Nairobi dam, dumping of industrial wastes like in Nairobi River etc.

This diversity in its approach, the Environmental Studies Course, gives the students much exposure to the realities of the environment. Also, it is readily accessible for the Students of CTIE, they are obliged to attend, and hence it is the major source. The answer above was very vital to endorse that the Environmental Studies Course is the major source of information about the environment students have. However, what of the other assumption that; there is a wide range of the sources of information about the environment? Are there some other places, ways through which students get their information about the environment? To prove or disapprove this, Table 4.3.3 and Figure 4.3.2 below simultaneously show the responses of the students, first about the UNEP and its agencies.

Table 4.3.3. UNEP and, or its agencies.

| Category of Respondents | Number of respondents | Frequencies | Percentage |
|-------------------------|-----------------------|-------------|------------|
| 1 st | 20 | 8 | 20 |
| 2 nd | 20 | 12 | 60 |
| 3 rd | 17 | 5 | 29.4 |
| 4 th | 19 | 6 | 31.6 |
| Total | 76 | 31 | 40.9 |

Figure 4.3.2. UNEP or its Agencies as a source by frequency and percentages.



Interpretation:

Table 4.3.3 and Figure 4.3.2 above show that 40% of the respondents said that they get much of their information from the UNEP agencies. However, contrastingly enough the majority that is 59.1% differed: they said, they do not get their information about the environment from the UNEP agencies. This shows that even though the environmental degradation is an immense problem to humanity and even the UNEP was set for that reason. However, according to most of the students, it is not doing much to reach most of them.

Conversely not to blame much on the UNEP, sometimes the students themselves do not attend some of the programs (Seminars) because of the tight programs at school. All in all, it is recommended that the UNEP should start getting in touch with the

College administration such that some of their programs become part of the College's formal curriculum. This will oblige all the students to attend and be sensitized about the environment in one way or the other. It is really surprising to note that the Headquarters of the UNEP is in Nairobi where this study was carried out, however, most of the students have not had access to the UNEP's sensitization on the environmental awareness.

It was also assumed that students have a wide range of the sources of environmental information. Table 4.3.4 and Figure 4.3.3 below were meant to present the data collected on medias like the Radio and Television, Newspapers Magazines or the Internet.

Figure 4.3.3. Sources of environmental information by % and frequency.

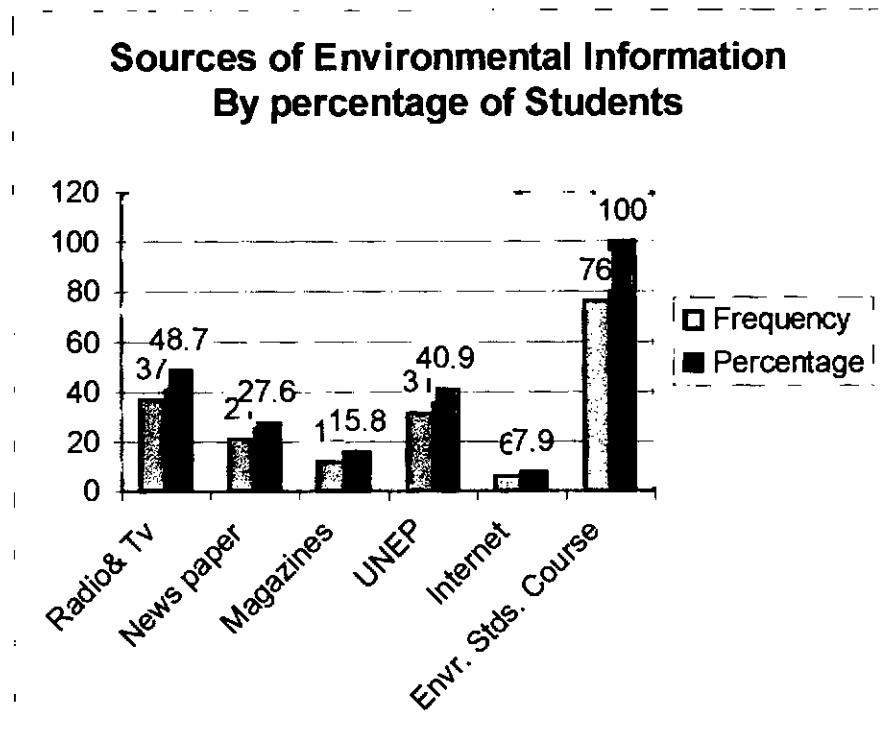


Table: 4.3.4 Sources of environmental information by % and frequency

| Source of Environ- information | Number of Respondents | Frequency | <i>Percentage</i> |
|-----------------------------------|-----------------------------|-----------|-------------------|
| Radio& Television | 76 | 37 | 48.7 |
| Newspapers | 76 | 21 | 27.6 |
| Magazines | 76 | 12 | 15.8 |
| Internet | 76 | 6 | 7.9 |
| Total | 76 | 76 | 100 |

Interpretation:

From the Table 4.3.4 and Figure 4.3.2 above, it is clear that students have to a greater degree access to different forms of media, ranging from the Radio and Television, Newspapers, Magazines and the Internet. This diversity is dully because of the students' diverse backgrounds. Since most of the CTIE students are from Religious Congregations, they have access to these different forms of Media. The Tangaza College also buys Newspapers on daily basis. This gives students access to what is happening in the surrounding world. Also in the College there is a Magazine on National geography called the National Geography Magazine and the other one called Wajibu that deals with people's responsibility in the society.

On the Television we are often informed about our environment. For example, the British Broadcasting Corporation (BBC) on the 20th March 2003 at 6 p.m, Kenyan time reported on how the war on Iraq shall affect the environment. Already the Iraq people had stated burning the oil wells in the Southern Iraq; gas from this area could

disturb the ecosystem. Also, there is the National Geographic Channel where we are always updated about our environment. Interestingly, the above presentation affirms the assumption that; there are many sources of environmental information from which the students get their information. This is why the percentages are just small on different sources.

4.4 The relative influence of Environmental Studies Course on one's behavior and perception of the environment.

The Environmental Studies Course is of some relative importance in the change of perception and behavior of students about the environment. This is first of all shown by its outstanding position as the major source of information the students have. Hence the researcher asked the students the relative influence of this Course on their behaviour and perception of the environment.

Table 4.4.1 the relative influence of Environmental Studies Course on one's behavior and perception of the environment.

| Response | Number of Respondents | Frequency | <i>Percentage</i> |
|-----------------|-----------------------|-----------|-------------------|
| Positive change | 76 | 76 | 100 |
| No change | 0 | 0 | 0 |
| | 76 | 76 | 100 |

From the table above, 100% of the students who have done Environmental Studies Course at CTIE confessed that the course has significantly influenced their perception of the environment. They say they used to take the environmental degradation as a story for the books and those paranoid. It was just something far fetched. However, through the experiences and the field studies they had during the course of their study of Environmental Studies Course, they have come to their senses and have really seen that there is great need to protect our vulnerable resources of air, water, soil etc. Clearly, some have said, they went to Nairobi River and saw how much waste is being dumped in the water from the people who brew Chan'ga (local beer), oil from cars and vehicles, dirty from sewage disposals and the garbage. Contrastingly, using the water, are people from the slums like Kibera and Mathare. They use this water for home use like drinking, bathing, washing and cooking. This indeed is a pathetic and unhealthy situation.

Some students said, they went to see the Nairobi dam. It is no longer a dam they said, the water hyacinth has engulfed it, there is little to no life now, there. Also the Ngong forest is drastically disappearing, monkeys and other small animals have nowhere to hide their heads. Many students said they are probed to do something about our beloved environment. All in all, the students' behavior and perception of the environment has changed positively after having done the Environmental Studies Course.

Conclusion

This chapter has dealt with the analysis of the findings of the study. This analysis has been done through the help of the questionnaire. The assumptions have been adequately proven right. In this case, the second assumption, that the Environmental Studies Course is the major source of environmental information among CTIE students. This has been proved by the study. All the students of CTIE have shown that, even though they may have some different sources from which they get information about the environment, the Environmental Studies Course is their major source.

The study has also to a greater extent discovered that the students of CTIE have varied sources of environmental information. This conciliates well with the first assumption that there are many sources from which the students of CTIE get information about the environment: such as the media; TVs, Books, NGOs, UNEP and Environmental Studies Course. This shows the diversity of the students' background.

The following is a summary of the sources of environmental information among the students of CTIE. It is crystal clear that the Environmental Studies Course is the major source of this information; this is followed by the Radios and Television that has 48.7 % the UNEP comes also with 40.9%, Newspapers 27.6%, Magazines 15.8% and Internet 7.6%

The findings also indicate that the Students have a common agreement that, their behavior and perception of the environment changed a great deal after they had done the Environmental Studies Course. They said they have moved from the theoretical point of view to a practical one. Most of the students recommended that Environmental Studies Course be compulsory to all University Students; this is so because, our mess on the environment affects all facets of our lives in our different fields.

The objectives of the study have also been looked into. The researcher is now well informed about the sources of environmental information among the Students of CTIE. In addition, the significance of Environmental Studies Course on the change of one's behavior and perception about the Environment has also been looked into. Everyone who reads this document should therefore remember that, 'we are traveling together, as passengers on a little spaceship, dependent on its vulnerable resources of air, water and soil... preserved from annihilation only by care, the work, the love we give to our fragile craft.' For this reason, it is a call for all of us to be responsible: our mother earth is fading.

CHAPTER FIVE.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The purpose of this study was to find out the sources of environmental information among the students of Christ the Teacher Institute for Education (CTIE). This chapter therefore, contains the summary of the findings, conclusions, recommendations and suggestions for further research.

5.2 SUMMARY OF THE FINDINGS.

The study was based on two assumptions:

- I. That the students have a wide range of sources of environmental information.
- II. That the Environmental Studies Course is the major source of environmental information among the students of CTIE. The researcher also intended to find out the relative influence of the Environmental Studies Course on the students' behaviour and perceptions about the environment.

Following from the first assumption that students of CTIE have a wide range of sources of environmental information, by means of the survey design and sampling conducted, this assumption is confirmed.

The wide range of the sources of the information about the environment among the CTIE students is manifested in students' mention of such varied sources as the United Nation Environmental Programme, (UNEP), Magazines, Newspapers, Radio and Televisions, the Internet and the Environmental studies Course. To be specific, 48.7% of the students get their information about the environment from the Radio and Televisions, 27.6% get the information about the environment from the Newspapers, those who get from the Magazines were 15.8% of the total population of 80. Also, 40.9% get from the UNEP or its agencies, while 7.6% get from the Internet. And finally all the students, thus 100%, get their information from the Environmental Studies Course that is offered at CTIE. It is therefore important to note as a conclusion that the study confirms the researcher's assumption that the CTIE students have a wide range of the sources of environmental information.

Another objective of the study was also to find out the sources of environmental information among the CTIE students. From the information that was collected, the main sources are as follows in their order of importance:

- The Environmental Studies Course.
- Radio and Television,
- Unite Nation Environmental Programme (UNEP),
- Newspapers,
- Magazines,
- Internet.

It was also assumed that the Environmental Studies Course is the major source of the environmental information among the CTIE students, analysing this, the study established that all the students of CTIE, (100%), concurred with this assumption. The students said much of their information about the environment is from the Environmental Studies Course. This Course offers the students with both practical and theory. They said the link between practical and theory is very strong that what they do and learn is interlocked. During their practical the students have time, to reach out to places in the environment that are degraded. They also visit areas where the government of Kenya is trying to protect the environment by law such as the Ngong forest, Nairobi national park and others. These and other such activities have shown students the need for environmental protection and awareness.

The study also established that the perception and behaviour of the students has changed positively. All the students have shown that the fact about the environmental degradation, used to be stories far fetched however with the knowledge of the environmental studies, they have come to the real world where everyone is a victim of the environment's dreadful conditions. They have joined in the struggle to protect our vulnerable resources.

Conclusively the students have a wide range of the sources of environmental information. However, the Environmental Studies Course is the main source of this information. Students' behaviour and perception has positively been changed after having done the Environmental Studies Course at CTIE.

5.3 CONCLUSION

The following conclusion can be made from the findings of the study:

Firstly, it is generally agreeable that the students at CTIE have a wide range of the sources of environmental information. These sources range from the Newspapers, Radio and Television, UNEP, Environmental Studies Course, Magazines, and the Internet. These findings are made from the targeted population of 80 students from CTIE of which, 95% responded.

Secondly, this study has shown that the Environmental Studies Course is the main source of the environmental information among the students of CTIE. This is so because:

- Unlike other sources like the radio, Internet that are all left at the discretion of individuals, the Environmental Studies Course is compulsory to all students.
- The Environmental Studies Course offers both practical and theory; it is involving indeed.

Lastly, having these varied sources of environmental information; the students have shown that their behaviour and perception about the environment has positively changed. They now value their resources. In fact, 100% of the students said they look at the environment with another eye that they did not have before having access to these varied sources, particularly the Environmental Studies Course.

5.4 RECOMMENDATIONS

This study has shown the sources of environmental information among the CTIE students. Having done that, the researcher proposes the following recommendations to make the environmental information more accessible:

- The UNEP as a body meant for the spread of information and conservation of the environment, should work hand in glove with the makers of curriculum in schools to strengthen the Environmental Studies Courses.
- The government should also give subsidies to Schools, Colleges and Universities to increase environmental awareness.
- Other non-governmental organisation should also participate actively in imparting environmental information to students.
- At CTIE, more courses on environment should be offered.
- Like other Universities, CTIE should have at least a day in a year for either tree planting or any environmentally connected activities.

5.5 DIRECTIONS FOR FURTHER STUDY

This study was done to find out the sources of environmental information among the students: This study was limited to CTIE, which is in the city of Nairobi. Having such a limitation, the researcher suggests that.

- Study should be carried out to cover the entire Tangaza College for detailed and comprehensive findings.

- Since this study was limited to students who have done Environmental Studies Course, further research should be done among students who do not have access to this course.

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APPENDIX I

QUESTIONNAIRE FOR THE STUDENTS. (The information given shall be kept confidential for the academic purpose only).

Dear respondent.

I am Trust Machaya, a student at CTIE Tangaza College a constituent College of CUEA.

I am conducting a study on the sources of environmental information among students. The aim of this study is to find out the sources of environmental information among students. Its outcomes shall be of help to educators, policy makers, NGOs and administrators to evaluate, review and strengthen the value of environmental studies in schools and at home based level. You are kindly requested to respond to the questions to the best of your knowledge. All your responses are highly appreciated and shall be treated with utmost confidentiality.

Instructions to the respondent:

Please respond by either ticking [✓] in the brackets provided against what applies to you or by filling in the space provided.

SECTION A

Background information.

1. Gender Male []

 Female []

2. Age (Optional) [.....]

3. Lay student [] Religious student []

4. Year at the College 1st [] 2nd [] 3rd [] 4th []

SECTION B

Open ended questions.

5. What is your understanding of the term environment?.....
.....
.....

6. You never had any talk about the environment before the environmental course
Yes [] No []

7. Is the Environmental Studies Course the major source of your knowledge about the environment? Yes [] No []
If no, specify the other sources.....

8. Do you get information about the environment from the UNEP or its agencies?
Yes [] No []

9. Do you get much of your information about the environment from the media like the Television?
Yes [] No []

10. Are there enough sources of environmental information you need as a student?
Yes [] No []

11. Which are the other sources of environmental information?
i).....
ii).....
iii).....

12. Which of the following are (is) your source(s) of environmental information?

Radio and Television []

NGOs []

Travelling []

Environmental Studies in schools []

Magazines []

Internet []

Newspapers []

Others specify.....

13. Has your perception of the environment changed after you have done

Environmental Studies Course? Yes [] No []

If yes, how?.....

.....

14. What do you think is the benefit of doing environmental studies?

.....

.....

15. Does having environmental information, change one's behavior towards the environment? Yes [] No []

Give reasons

16. What advice/ recommendation would you give to the people who live in this degraded/-mismanaged environment?

.....

Thank you very much.

Saint Mary's University of Minnesota/USA Nairobi Campus

Christ the Teacher Institute for Education
Tangaza College
P.O. Box 15055
P.C. 00509 Langata
Nairobi, Kenya

011-254-2-89-0339 (office)
011-254-2-89-1407 (messages)
011-254-2-89-0018 (fax)
xteach@kenyaweb.com

20 January 2003

To Whom It May Concern:

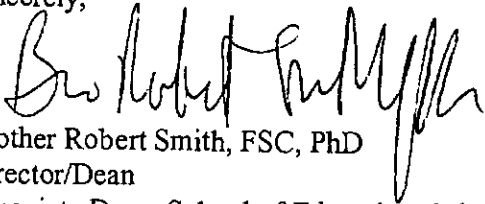
Brother Trust Machaya, SC (#0115) is a fourth-year full time student in good standing at Christ the Teacher Institute for Education. In May, he will be graduating with a B.Sc.Ed. As part of his final semester, he is enrolled in a research seminar, during which he is to conduct research and gather informational data regarding various issues, leading to the writing of a major paper. His lecturer for this course, and the person responsible for directing his research, is Mr. David M. Gaiti, one of our lecturers in Geography.

Christ the Teacher Institute for Education is an institute in the School of Education of Saint Mary's University of Minnesota/USA. It is also an institute within Tangaza College, one of the constituent colleges of the Catholic University of Eastern Africa.

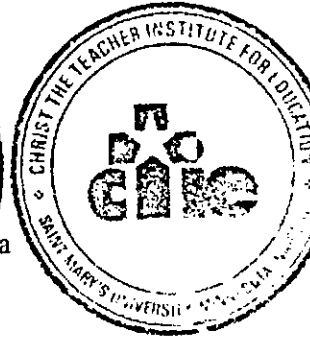
In order to accomplish his work, I respectfully request that you allow Brother Machaya the courtesy of having access to your institution or program for the purpose of gathering data, all of which will be shown to and discussed with you.

Thank you for your kind consideration of this request. Please contact me if I can provide additional information, clarification, or amplification of anything above.

Sincerely,



Brother Robert Smith, FSC, PhD
Director/Dean
Associate Dean, School of Education, Saint Mary's University of Minnesota
Dean, Nairobi Campus, Saint Mary's University of Minnesota



Address: "EDUCATION", Nairobi
Postcode: Nairobi 334411
Replying please quote



JOGOO HOUSE "B"
HARAMBEE AVENUE
P.O. Box 30040
NAIROBI

MOEST 13/243/7
and date

7th March 20..0

The Dean of Studies
Saint Mary's University of Minnesota /USA
Nairobi Campus
Christ the Teacher Institute for Education
Tangaza College
P.O. BOX 15055
P.C. 00509 Langata
NAIROBI

Dear Sir

RE: RESEARCH AUTHORISATION

Please refer to your letter dated 24th February, 2003 on the above subject.

I am pleased to inform you that the following seven students of Tangaza College whose names appear on the attached list have been authorised to conduct research on the topics shown against their names in Nairobi Province and Marsabit District.

It is noted that the research is a partial requirement for their term paper for the completion of CGE 496 Geography Research II.

Advise the students to report to the Provincial Commissioner Nairobi, Provincial Director of Education Nairobi, the District Commissioner Marsabit and the District Education Officer Marsabit before embarking on their research project.

Yours faithfully


A. G. KAARIA

FOR: PERMANENT SECRETARY/EDUCATION

For PERMANENT SECRETARY
MINISTRY OF EDUCATION

- CC
- The Provincial Commissioner
Nairobi
- The Provincial Director Education
Nairobi
- The District Commissioner
Marsabit
- The District Education Officer
Marsabit

Appendix 4

Plates

Appendix 4-I

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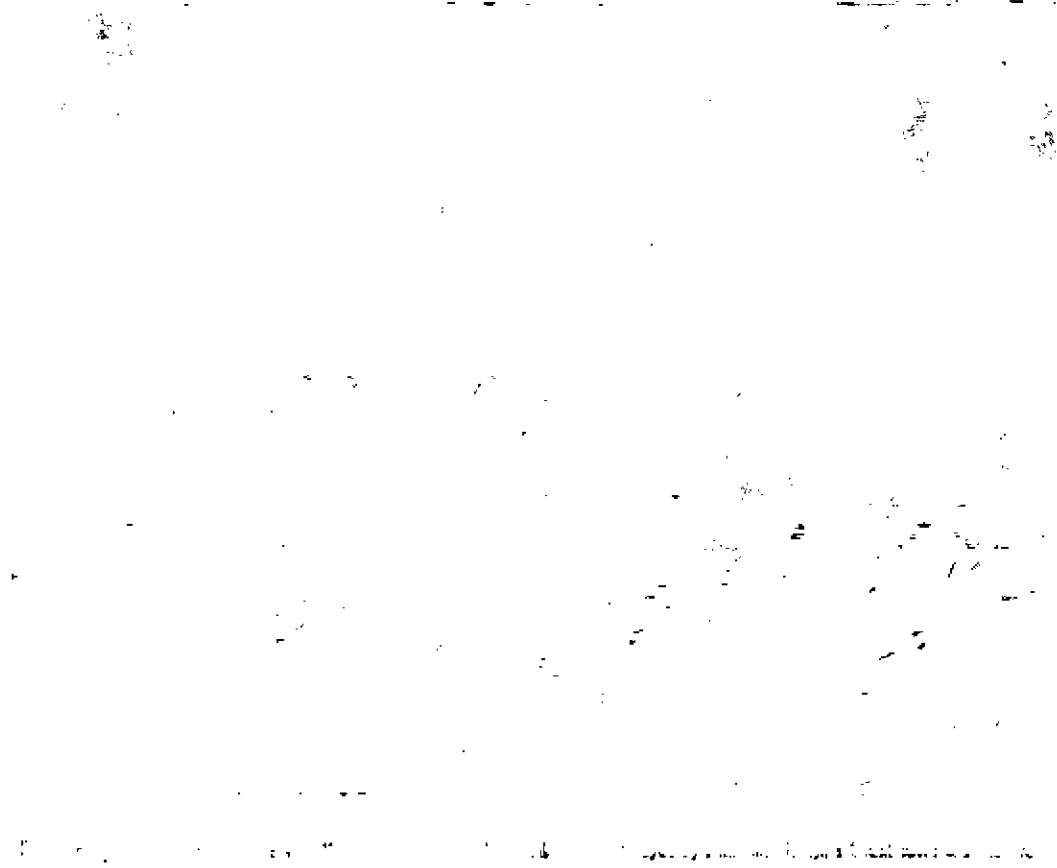
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The Victoria Falls is one of the largest and most beautiful falls in the world. Please let's protect it and many other natural resources for those yet to come.

Appendix 4-II



The joy of the capitalists is the sadness of the environmentalists. Our dear forest, you are gone.

Appendix 4-III



War in Iraq: another blow on the environment. Look, the thick smoke, where is it going? Seemingly unaccountable yet it has a big impact on the ozone layer.

Appendix 4-IV



Chimpanzees in the wild: Photo courtesy of Wildlife Conservation Society, Africa

Many gorillas
under threat
from Ebola

Gorillas are some of the endangered species.

Appendix 4-V

Service to community



On 10th October 1994, the schoolgirls participated in preparation for yesterday's celebration of Mother's Day. Lord Edwin Powell was the founder of the school movement.

Schoolgirls help in the cleaning of the environment. Is it because of the Environmental Education they have done?

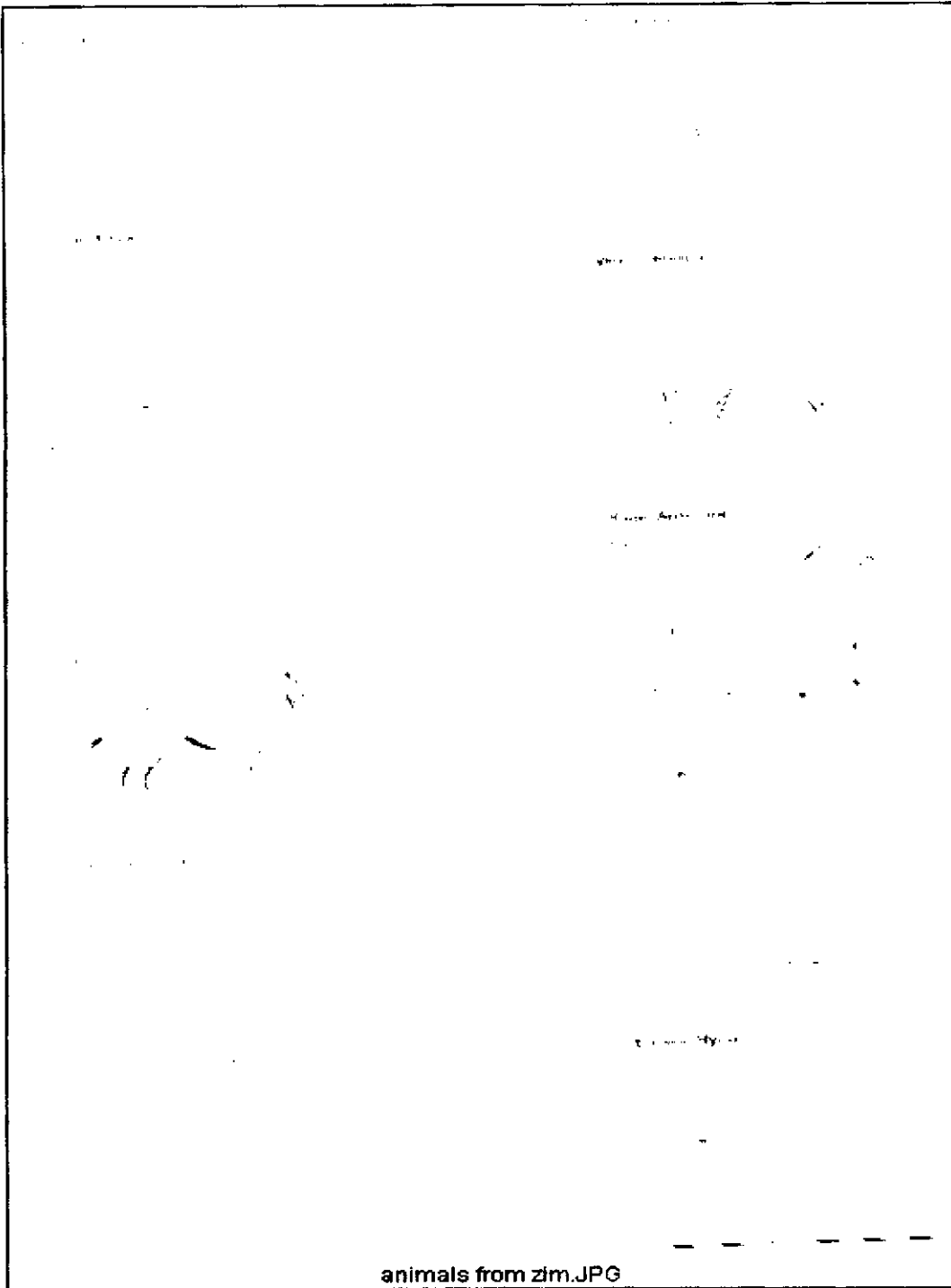
Motorists dumping used oil into environment



The image shows a person pouring used oil into the environment, which is a significant threat to aquatic life and other systems in the ecosystem.

Used oil is a big threat to aquatic life and other system in the ecosystem. What is the way forward?

Appendix 4-VII



These animals can be seen now because of the protection given to them. In this case by the Zimbabwean law.

Appendix 4-VIII



Some communities are still relying on fire wood as the source of fuel