

ISLAM AND THE ENVIRONMENT WITHIN THE CONTEXT OF GLOBALISATION AND SOUTH AFRICA

by

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This thesis is dedicated to my late mother Kathija (Ma).

She loved every creature or plant and was always full of gratitude and praise

for the Almighty.

She would have been very proud.

PREFACE

I would like to express my sincere gratitude to the following who made this thesis possible:

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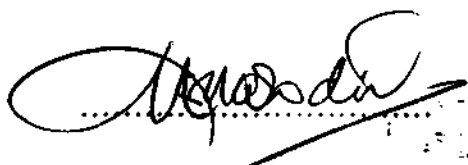
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“I certify that, except as noted above, the thesis is my own work and all references used are accurately reported.”



Mahomed Sayeed Karodia

EXECUTIVE SUMMARY

This thesis titled *Islam and the Environment within the context of globalisation and South Africa* asserts the integral role that *religion and culture* place on social transformation. It also dispels any myths about the unscientific nature of religion. Religion, in its very tenets, advocates the total respect of all living and non-living things. An analysis of the verses found within the divine book of Muslims, the *Quran* shows the role of humans in conserving, preserving and caring for the natural environment. The environment is given to humans as a gift. Humans are the custodians and the care-takers of the environment.

Planet Earth is in grave danger. *Globalisation* has placed unreasonable demands on our natural resources. Overproduction, the result of mass consumption has led to large scale industrialisation. Pollution, depletion of the ozone layer, global warming, climatic changes are some of the concomitant results of globalisation. South Africa is no exception to the rule. The Muslims of South Africa, via a closer link with the environment can achieve social transformation through the process of Environmental Education and taking greater care of the environment.

It is critical that Muslims in South Africa begin to define their relationship with the environment. Muslim schools and institutions formed part of this empirical investigation to ascertain what efforts are being made to develop a sustainable Muslim community in South Africa. The research is both qualitative and quantitative in nature with an exploratory modality. Proposals are made to implement environmentally-friendly programmes with a view to build capacity amongst Muslims in South Africa through the two fundamentally important stakeholders in South African Muslim society: Islamic schools and the Body of Theologians.

The "return to basics" call is further resonated within the context of a textual analysis of verses of the Quran, with a view to ascertain the ordained role of Muslims *vis-à-vis* their purpose on this earth with reference to the natural environment. This theoretical, conceptual framework provides the bedrock for assumptions that protecting the natural environment is incumbent upon all Muslims.

There is an urgent need for South African Muslims to galvanise around environmental issues within the parameters of Islamic schools and Islamic institutions (the Jamiats). These milieus form the pivotal points in this *praxiological* approach. Programmes for communities and educational institutions are suggested for maximum optimisation in a systemic way of promoting and sustaining environmental education *de Nuevo*. Socially responsive models and other pragmatic proposals are suggested in a bid to conscientise and empower South African Muslims concerning ways and means of protecting the environment.

This thesis highlights the unquestioned assumptions which underlie growing calls for social transformation and considers the significance of a socially critical orientation to environmental education in relation to divine doctrines.

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1 CHAPTER ONE

Introductory Chapter

1.1 INTRODUCTION

The chosen study area is the Republic of South Africa. Islamic schools and Islamic institutions that were researched are found within the context of this study area.

This thesis, entitled “Islam and the *environment* within the context of *globalization* and South Africa”, recognizes that an empirical study within the context of Islamic schools and Islamic institutions will enable the researcher to gain insightful findings about the level of environmental awareness among Muslims in South Africa.

These two areas within South African Muslim society are most vibrant and form pivotal points or axes for the research as well as points of articulation for praxis. This chapter focuses on a break-down of the five chapters presented in the main body of this thesis. Much space is devoted in Chapter One to the **design and methodology** of the **research format** found in Chapter Three.

Chapter Two focuses on the conceptual framework around the issues of the “environment” and “globalisation” within the parameters of Islamic divine knowledge. It involves textual analysis and the basis for its derivation arises from literature reviews on the issues of the **environment** and **globalisation** within the context of Islamic knowledge.

This chapter which is aptly titled **Theoretical viewpoints on Islam and the environment within the context of globalization** clarifies Islam’s position on the environment. Islam places great emphasis on the protection of the environment as the Holy Quran categorically states that the human being is a *Khalifah* (vicegerent) of Allah in this world and should accordingly protect and preserve the environment. Chapter Two analyses the innumerable verses in the Quran which discuss various aspects of natural phenomena such as the presence of animal communities (Q:6:30), instinct and habitat (Q: 16:68-69), animal communication with Prophet Solomon (Q:27:28), invisible barriers within the sea (Q:27:28), creation of heaven and earth (Q:16:12), the vegetable kingdom (Q:6:38), animal kingdom (Q:6:38), bees (Q:16:68-69) and the like. The historical works of Abu Sway, Sachedina, Ozdemir, Nasr and Fazlun Khalid form the basis of the analysis.

Chapter Two also attempts to clarify the Islamic position on globalisation. Globalisation is responsible for much of the pollution and environmental despoliation one comes across in Muslim countries. Muslim countries are not the exception. In many Muslim countries farmers eked their sustenance through **subsistence farming**. This was a peaceful way of sustaining one's living and these farmers survived by being part and parcel of the ecosystem.

The co-existence of man and the environment was disturbed when globalisation placed certain constraints on these farmers. Governments who had to become part of this major **centralization of the world economy** into one **global village** dictated through draconian laws that farmers now had to become members of a co-operative. Emphasis was placed on over-exploitation of the land and natural resources.

Industries that depend on raw materials began to move closer to these farms under the guise of **spatial reform**, placing severe strain on farmers to provide raw materials at phenomenally accelerated rates. Large scale deforestation and concomitant problems such as soil exhaustion and soil erosion (farming in marginal areas) now face these farmers who once lived in co-existence with natural ecosystems found on land, in aquatic and marine ecosystems as well as in the atmosphere. These are few of the concomitant problems associated with globalisation which threaten the environment in Muslim countries.

Chapter Three focuses on the conclusive findings of the empirical investigation of South African Islamic schools and the main religious bodiesⁱ found in South Africa.

According to the National Association of Muslim School's diary of Islamic schools, there are approximately 47 registered Islamic schools which fall under the auspices of the Association of Muslim Schools (AMS).

ⁱ In South Africa, they are referred to as the *Jamiats*. These are the Muslim Judicial Council (MJC) in the Western Cape, the Jamiat Ulema Transvaal (JUT) in Gauteng, the Jamiat Ulema Kwazulu Natal (JUKZN) and the Sunni Jamiat Ulema which is situated in Durban.

The Association of Muslim Schools (AMS) is a national body which regulates the functioning of these schools. AMS is approximately 20 years old. AMS has regional offices operating in Kwazulu Natal, Gauteng and the Western Cape provinces.

The sample of 17 Islamic schools taken from three main geographical areas within South Africa provides a reliable empirical database for the conclusive findings which are found and collated in Chapter Three. This study has also recognized the importance of the controlling religious body of theologians in South Africa. The main institutions in this regard (Jamiat-e-Ulema Kwazulu Natal, The Muslim Judicial Council of the Western Cape the Jamiat-e-Ulema Transvaal and the Sunni Jamiat Ulema) were also used as the basis for the empirical study in Chapter Three.

The empirical investigation used six schools as the control element in the research. Three of the "control" schools are found in the United Arab Emirates and three are South African public schools. This brings the research sample to 23 schools. A sample of 17 (36%) of the total number of Islamic schools in South Africa is an acceptable, reliable sample per volume. Using simple random sampling techniques, the sample size is valid and highly probable for **generalisation** purposes.

Furthermore, the Department of Education in Riyadh, Saudi Arabia were kind enough to supply information on the schools which were placed under their jurisdiction.

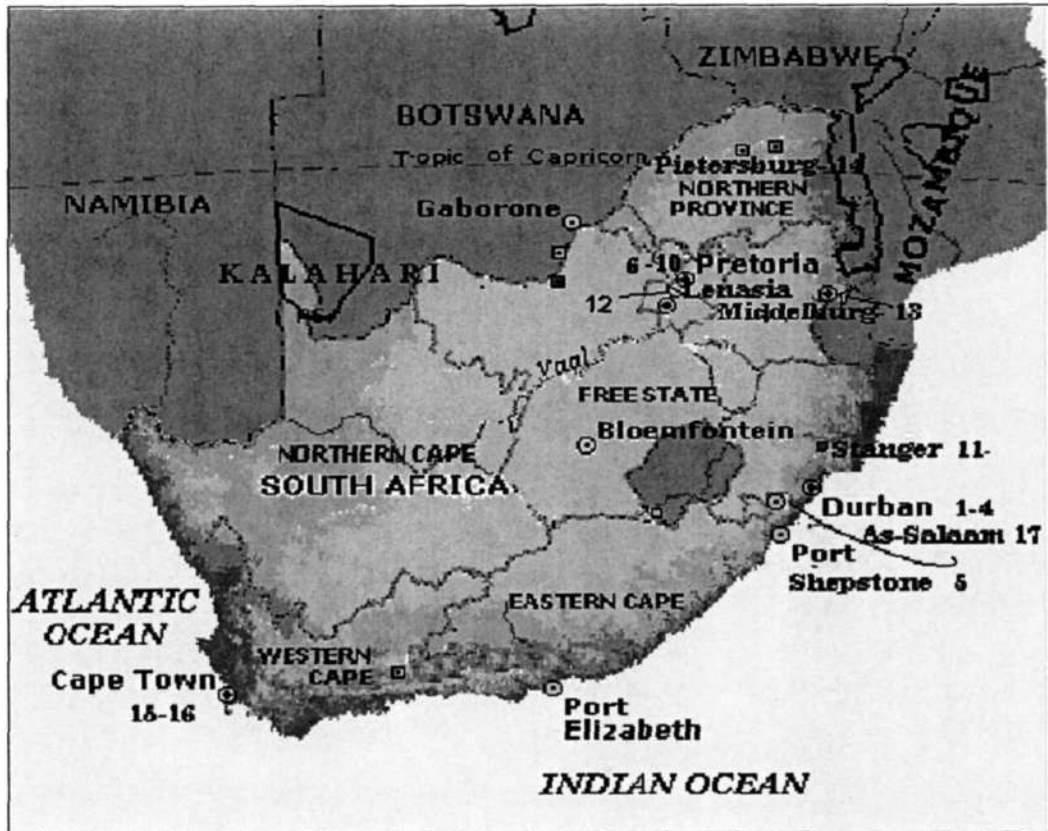


Figure 1: Schools researched in South Africa: National Context

Key:

- | | |
|-----------------------------|-------------------------------------|
| 1. Al-Falaah College | 10. Al-Ghazzali |
| 2. Orient Islamic | 11. Zakariyya Muslim School |
| 3. Hartley Road Primary | 12. Lenasia Muslim School |
| 4. Juma Masjid | 13. Middelburg Muslim School |
| 5. Port Shepstone Islamic | 14. Northern Muslim School |
| 6. Azaadville Muslim School | 15. Islamia College |
| 7. Central Islamic School | 16. Bechar Education Centre |
| 8. Pretoria Muslim School | 17. As-Salaam Educational Institute |
| 9. Al-Asr | |

The main geographical areas of research are shown in Figure 1. They are found in the following provinces:

- The Western Cape
- Kwazulu Natal

- Gauteng
- Limpopo, and
- Mpumalanga province

Kwazulu Natal, Gauteng and the Western Cape are traditionally the geographical areas within which most Islamic schools are found. These are also the three main metropolitan areas where Islamic schools function optimally. Table 1 exemplifies the global view of the schools researched by rank and size.

Table 1: Sample of schools researched in the study

PROVINCE	SAMPLE SCHOOL	RANK PER SIZE PER PROVINCE
KWAZULU NATAL	ORIENT ISLAMIC	1
	PORT SHEPSTONE ISLAMIC	5
	AL-FALAAH COLLEGE	3
	JUMA MASJID PRIMARY	4
	ZAKARIYYA MUSLIM SCHOOL	7
	AS-SALAAM EDUCATIONAL INSTITUTE	6
GAUTENG	AZAADVILLE MUSLIM SCHOOL	4
	CENTRAL ISLAMIC SCHOOL	2
	AL-ASR	5
	AL-GHAZALLI	6
	PRETORIA MUSLIM SCHOOL	3
	LENASIA MUSLIM SCHOOL	1
POLOKWANE (NORTHERN PROVINCE)	NORTHERN MUSLIM SCHOOL	1
MPUMALANGA	MIDDELBURG MUSLIM SCHOOL	1
WESTERN CAPE REGION	BECHAR EDUCATION CENTRE	2
	ISLAMIA COLLEGE AND HABIBIYA PRIMARY SCHOOL	1
CONTROL SAMPLE		-
* ABU-DHABI	AL-WARRUD SCHOOL	-
* DUBAI	THE CENTRAL SCHOOL	-
	NEW INDIAN MODEL SCHOOL	-
* SAUDI ARABIA	RIYADH DIRECTORATE OF EDUCATION	-
*SOUTH AFRICAN	HILLSIDE PRIMARY	-
	STANGER MANOR SECONDARY	-
PUBLIC SCHOOLS	HARTLEY ROAD PRIMARY	-
	TOTAL NUMBER OF SCHOOLS	23

1.2 RESEARCH METHODOLOGY

Current developments in South Africa confirm that policy developers and educational practitioners alike tend to place a high value on research. This tendency is based on a utilitarian perspective on research and knowledge.

In the light of the poor performance of research (and policy changes) in transforming educational and social practices, this thesis aims to challenge this perspective because it recognizes that Islamic schools and Muslim society in South Africa provide “fertile” ground to lodge the seeds for conscientising both Muslim learners at schools and the Muslim public at large on the value of the environment because:

- Muslim schools are mainly independent. The Revised National Curriculum Statement (RNCS) is currently being followed in Muslim schools and there is sufficient scope for environmental education to be infused in the syllabus. (More of this is discussed in Chapter Four of this thesis: Practical Proposals for the Development of Environmental Conceptions in South African Muslim schools and religious institutions)

This research will inform Muslim schools via its findings on the status of environmental education and possibilities for a paradigm shift in didactical, pedagogical and assessment modes in schools.

- Religious bodies can, at an instance, institute a betterment programme in South African Muslim society through an improvement in the quality and quantity of lectures and information which reaches South African Muslims through the Friday sermon at mosques and through other dissemination modalities. This Chapter also focuses on information which reaches the Muslim public at large via newsletters sent by the different Islamic societies.
- Muslim radio stations can improve their programming and content in respect of topics concerning the environment.

- An effective Muslim school and Jamiat driven Environmental Education programme can ultimately lead to *social transformation* and develop a sustainable society.

The research in this thesis is relevant to improving the thinking in Muslim society in relation to the environment.

This research employed both quantitative and qualitative modes of research.

The terms “**quantitative**” and “**qualitative**” are used frequently to identify different approaches to research. The most obvious distinction to a reader between quantitative and qualitative research is in the form of data presentation. **Quantitative research** presents statistical results represented with numbers; **qualitative research** presents facts in a narrative form with words. In this research the data related to Islamic schools was dealt with **quantitatively** whilst the investigation into institutions (leading religious organizations and radio stations) as well as the literature search and textual analysis was dealt with **qualitatively**.

The *rationale* behind this thesis prompted the research design. A rationale usually serves as a succinct statement of:

- How the researcher came to develop an interest in the proposed topic; and
- Why the researcher believes the proposed research is worth doing.

The rationale behind the choice of this topic is the originator’s involvement in the field of Geography for the last 25 years. Issues pertaining to the depletion of the ozone layer, AIDS, famine, the El Nino effect, global warming, environmental despoliation, sleeping sickness and other environmental issues are common concerns in the Muslim sector of our country. The environment probably enjoys prominence in Muslim society just as it does in First World countries by virtue of the fact that the protection and reverence of the environment occupies a pivotal focus in the Holy Quran. This thesis recognizes an important neglected research area which places greater responsibility on Muslims to take greater care of the environment.

The demands placed by globalization on both first and third world countries has exacerbated pollution, proliferated environmental damage and has had a profound effect on the environment in general. As yet, no substantial research exists in the field of evaluating the role of South African Muslims within the research scope of the environment and globalization.

Islam is rich in research areas. The topic of Islam and the Environment is of vital concern to every being on this planet.

The following sources of data were used in the empirical phase of this study to address the research questions:

- surveys via questionnaires
- analyses of written work and audio cassettes
- evaluation of programmes offered in schools, organizations and radio stations
- observations, literature search in journals
- studying articles in the media
- use of the modalities of interviews and mini-conferences.

The non-empirical study involved philosophical and conceptual analyses as well as literature reviews. The following text sources were mainly used in the research phase: McMillan and Schumacher 1993; *Research in Education*, Harvey, David, 1973. *Explanation in Geography* and Jansen, J, 1995, *Research Made Easy*.

After having collected the data from the field, the technique of **data analyses** was utilized to make sense of the accumulated information.

Data analysis in this research study included the following three critical steps:

- Scanning and cleaning the data
- Organising the data
- Re-presenting the data

Data collection amounts to the establishment of a set of rules for constructing and filling in some sort of data matrix. The aim of reliable, representative sampling is to form a

small data matrix (or data cube) out of an enormous data matrix (data cube) in such a way that the small matrix (cube) provides approximately the same amount of information needed for a given purpose as would the larger matrix (or cube). The samples were of factorial design, with the same sample size for all combinations. This was done through the development of software that would suit the responses.

Writing a research proposal can be the most difficult yet exciting step in the research process. In this phase, the entire project is synthesized into a specific form. In the proposal, researchers demonstrate that they know what they are seeking, how they will seek and recognise it, and explain why the research is worthwhile. The outcomes of the quantitative methodology employed in Chapter Three reflect a deductive approach to this research.

The *design* and *methodology* in Chapter Three includes the following:

- A. Subjects (Islamic institutions and organisations)
- B. Instrumentation (sampling, questionnaires)
- C. Procedures
- D. Data analysis and presentation
- E. Ethical concerns

The design which was predominantly used in the quantitative research area was the *survey method*. Questionnaires were issued to schools and the variables explained. The responses of the survey via the structured questionnaire were analysed and collated. The final form of presentation is pictorial with bar graphs which analyse the level of environmental education in Islamic schools tested via many systemic questions.

The control in the survey used three South African public schools, one school in Riyadh, Saudi Arabia and three schools in Dubai bringing the total sample of schools researched to 23.

In considering the implications for research in Environmental Education, the author felt justified in claiming that:

Ontologically, while the biophysical environment might or not be viewed in realistⁱⁱ terms- as objectively existing- the subject matters of environmental education research are environmental and environmental educational issues, and these are ineluctably socially constructed rather than realist in nature

Epistemologically, we come to know about environmental and environmental educational issues in a subjective, socially constructed manner. Again, the nature of the knowledge we deal with is ineluctably subjectivist.

Ideologically, both the subject matter of this research and the research methodology itself, are inextricably linked with the premise that environmental education is not a new phenomenon, but has been in divine doctrines for centuries.

Practically, this research has tried (in essence) :

- to be contextual (in terms of the Muslim community of South Africa and the Islamic worldview which is based essentially on the Qur'an and Sunnah)
- to be responsive to developing greater understandings about environmental and educational issues related to religion.
- to be participatory, engaging naturally occurring discourses among educators in Islamic schools and the Jamiats because it is within this setting that the understandings of environmental issues among South African Muslims are articulated.
- to negotiate non-empirical studies in the form of philosophical and conceptual analyses as well as literature reviews.
- to be valid and relevant
- to recognise practitioners' philosophies and theories as well as practices

ⁱⁱ In pragmatic, practical ways.

Praxiological: must be able to be implemented in a variety of situations by being *generic* in nature.

The design and methodology in the quantitative aspects of this research include the following aspects:

1.2.1 *The subject*

The subject is identified by the field of interest. In this case it includes school principals, educators in Islamic schools on one hand and office bearers from the leading body of theologians on the other. The probability sample was drawn by choosing leading schools from the main metropolitan areas in South Africa as well as from the other provinces. Subjects are the individuals who are surveyed in the research. It is from them that data was collected and collated. As a group, subjects are referred to as the **sample**.

The sample consists of individuals selected from a larger group of persons called the **population**. The purpose of this study was to generalize results. In this case it was rather unnecessary to use all the Islamic schools as subjects because some of them do not have a cross section of all ages and grades and some are very recent on the educational landscape

The sample selected from the population provides ample evidence of the general characteristics of the population, in this case Islamic schools in South Africa. This entire sampling is referred to as probability sampling. The type of sampling used was **simple random sampling**. The major Islamic schools in the Republic of South Africa were used as seen in Table 1.

The sample is unbiased and schools have been selected in such a way that all members have the same probability of being selected. There are 47 Islamic schools in South Africa and the sample schools selected represent the major regions as well as the periphery. Thus, it is safe to say that the sample is ***probabilistic, valid and reliable***.

The subjects in this research included both school principals and three key personnel from each of the religious bodies in the Western Cape, Kwazulu Natal and Gauteng.

These are people with positions in authority who have reasonable knowledge of the operations which go on in their respective organisations.

1.2.2 *The Instrument*

The instrument used in the research to elicit information was mainly in the form of questionnaires. The structured questionnaire given to schools was given ethical clearance by the Faculty Board who initially approved the proposal for this thesis. The interviews with the body of theologians took place via unstructured questionnaires in **open form**.

In this case, given the financial constraints, there were no other reliable means available that could be employed.

The questionnaire issued to the Islamic schools was based on eliciting information related to defining and listing the specific information that will be needed to establish the level of environmental consciousness of Islamic schools in the Republic of South Africa.

The following objectives were taken into consideration when preparing the questionnaire:

- Items were clear
- Double-barrelled questions were avoided
- Respondents chosen were all competent to answer independently
- Questions were relevant
- Biased items were avoided

1.2.2.1 *The questionnaire to the school principals (Refer to Annexure D):*

The questionnaire was both in **open** and a **closed** form. **Vital** information was obtained through the questionnaire related to:

- General information related to the school
- The school's environmental education status

- Events related to the environment
- Activities learners are involved in at school
- Open form of questions on the school in general related to the environment.
- Assembly Talks on the environment
- The Library Resource Centre
- Environmental Education Competitions
- Classroom Ecology
- The Curriculum and environmental education
- Environmental officer
- Integration of environmental education
- Integration of aspects : Quran and Hadith and the environment
- Staff dynamics
- Staff development in respect of environmental education
- General comments

No scaled items or Likert scale was deployed due to the simplicity of the questionnaire. The very nature of the questionnaire can elicit excellent responses without tipping the scale of the quantitative research in a rather positivistic manner.

1.2.2.2 The questionnaire to the representatives of the Provincial Theological Bodies

The above was first faxed to the following members of the theological bodies and the questions were open ended in the main:

- Mufti Zubair Bayat: Jamiat-e-Ulema Kwazulu Natal
- Moulana Ihsaan Hendricks: Muslim Judicial Council: Western Cape
- Moulana Ebrahim Bham: Jamiat-e-Ulema Transvaal
- Moulana Abbas Khan: Sunni Jamiat-e-Ulema: Kwazulu Natal

The respondents were interviewed using the phenomenological approach. This approach allowed the interviewees ample latitude and freedom to express their viewpoints. The approach allows the candidates to express themselves with very few interruptions from the interviewer.

The researcher has no existing bias about the subjects or about the topic researched. The subjects were informed about the topic and the responses were honest and objective.

The respondents were first issued with a communiqué highlighting the focal questions. The respondents were given approximately one week to prepare. The response was verbal.

1.2.2.3 Data analysis and presentation

This part of the research involves gathering information about the variables in the study. Normally, the researcher chooses among a wide range of techniques and approaches for collecting data from the subjects. The two specific approaches used in this study to gather information were

[1] questionnaires, and

[2] standardised interviews.

The research in the quantitative part of this study in Chapter Three took place as follows:

- 3.1 The data (through questionnaires) was collected via e-mail, faxes and face-to face visits.
- 3.2 The data was collected over four months.
- 3.3 The data was collected in hard copy form by the researcher.

The sources of error or “threats” were minimal in the course of this research. The extent of control over extraneous variables, which is defined as internal validity, was strong because the study’s inherent simple design (subjects, instruments and procedures) effectively controlled possible sources of error so that these sources have no bearing on the study’s results. The external validity of design or the generalization of results can be regarded as being appropriate because the population studied and conditions of the research were conducive to producing valid, probable results.

1.2.2.4 Ethical concerns

Ethics are generally considered to deal with beliefs about what is right or wrong, proper or improper, good or bad. Naturally, there is some degree of disagreement about how to define what is ethically correct in research. But, this concern is legitimately important for any research, including this thesis. Most relevant for any research to be successful are the following concerns, which the author had to take careful cognizance of:

- ✓ The author was ultimately responsible for the ethical standards to which this study adhered to.
- ✓ Subjects were informed of all aspects of the research so that willingness to participate was increased and answers to inquiries in the questionnaires were honest and helpful to this research.
- ✓ The author, as investigator was honest and open as possible with the subjects. No information was withheld from the subjects.
- ✓ There was no mental or physical discomfort caused to any subject.
- ✓ Information obtained about the subjects will be made available for research purposes and would be used for the Association of Muslim Schools Development Programme for schools. This was agreed upon.
- ✓ All research conducted at schools and institutions such as the Jamiat had the approval of the institution. No research was done without the knowledge of the authorities.
- ✓ Subjects were provided with information that results of the study would be communicated and relayed back to the institutions.

1.2.2.5 Concluding Remarks to the section on Research design and Methodology

Chapter Three in essence deals with the evidence from the empirical investigation into Islamic schools and major Islamic institutions in South Africa.

Attention was paid to the following when dealing with subjects and instruments and variables that should be considered in designing and interpreting the research:

- It is clear how the research design was planned and conducted.
- The purpose of the research has been established with no bias.

- The research is valid internally, thus controlling bias or error.
- The results are externally valid and the results are generalized
- The sample is valid and probable.
- The size of the sample is large to be regarded as valid.
- The instrument of the **questionnaire** was chosen carefully in order to have acceptable reliability and validity.
- The ethical responsibilities that accompany the gathering and reporting of information were taken into consideration.

The research and design points to highly probable results which are valid and can be used as generalizations concerning an investigation into the level of environment consciousness amongst South African Muslim learners in Islamic schools and in major Islamic institutions.

This thesis is **exploratory** in nature and there is no reference made to a **null hypothesis**.

1.2.2.6 The Way Forward: Suggestions for South African Educational Institutions and Religious Bodies: Chapter Four

The proposals for planning purposes are outlined in Chapter Four. In practice, Muslim countries do not differ from the industrialized nations of the world. Polluting the environment and destroying the natural habitat (deforestation; riverine, land and marine pollution) are commonplace in Muslim countries. The presence of motor vehicular pollution in the holy city of Makkah is found to be at lethal concentration levels potent enough to cause immediate upper respiratory tract diseases even to the healthy individual. This thesis aims at initiating the research questions around the issue of the environment. Research on the issues concerning the protection of the environment among South African mainstream Islamic educational institutions is of vital essence. There is a growing concern today regarding issues relating to the environment. Whilst natural resources are fast depleting, a paradigm-shift has to be effected on South African Muslim thinking. This thesis points out the relevance of the environment and the purpose of every Muslim's duty to his/her Lord. The pressing needs of sustaining the environment is of paramount importance. The flowchart in Figure 2 illustrates the

relationship between the author, his intention to “run” workshops and the proposals suggested:

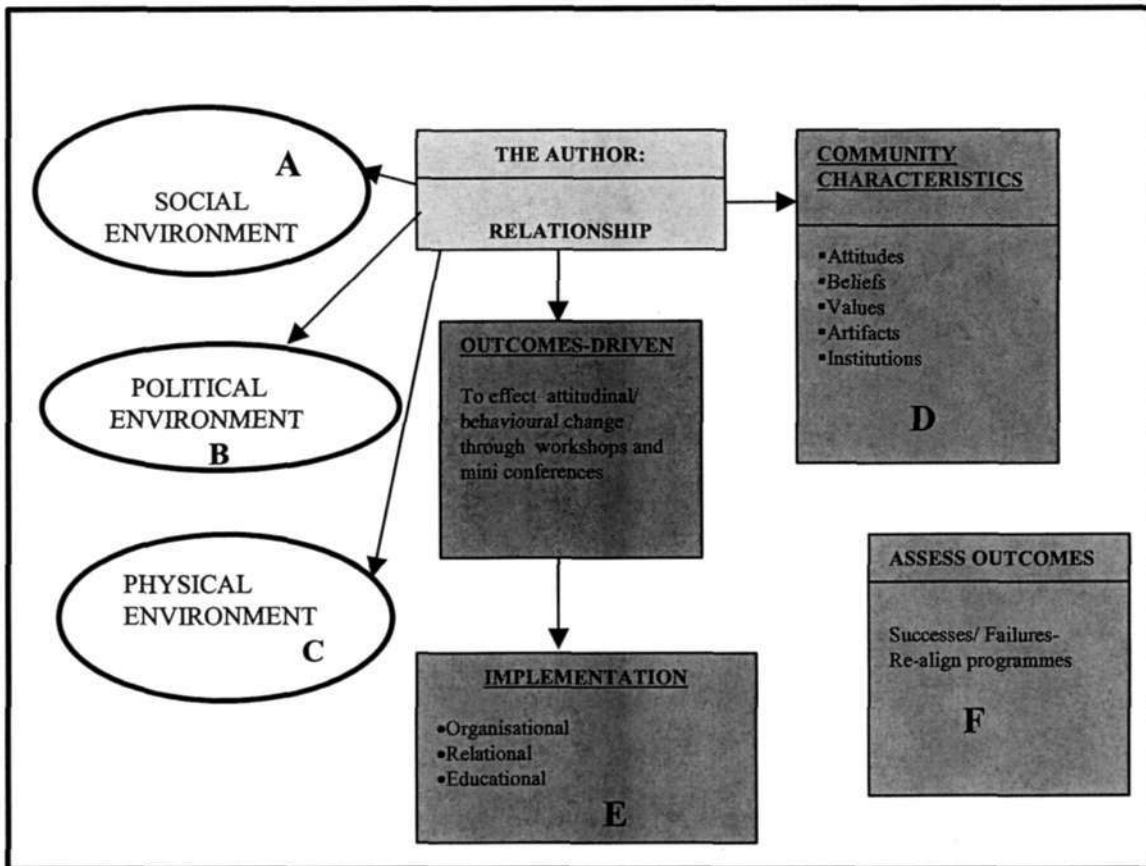


Figure 2: Model for a socially responsible Environment Education extension process

In the flow chart (Figure 2) a pro-active model for implementation may be used to assist South African Muslim society with special reference to the environment.

The author would like to form linkages with educational institutions. This relation with the community forms the essence of successfully implementing any community-directed environmental education policy within the context of South African Muslim society. Ignorance has been described as one of the most important causes of environmental mismanagement. In searching for solutions it has been argued that education (formal and informal) is a key in developing optimal human-environment relations. Only through education is understanding broadened and developed. The urgency of implementing workshops cannot be over-emphasised especially when there are expectations that the South African population will double from almost 36 million in

1990 to 72 million by the year 2020 (Lombard, 1990). Muslims comprise 2% of the total population of South Africa.

An impression made of the **social and political environments** will ultimately translate into an improvement of the **physical environment**. Chapter Four takes an in-depth look into socially-responsible programmes and political lobbying which will create greater environmental awareness.

The intentions of the *modus operandi* in Chapter Four are to effect behavioural changes in South African Muslim society through the implementation of inter-active workshops and mini-conferences.

This chapter also focuses on changes in the way organizations operate, provides simple ways to create greater linkages/relations between elements of any system albeit educational or social and makes contributions towards curriculum changes in the educational sector with the introduction of a ninth learning area: the environment. The other eight learning areas are discussed in Chapter Four under the heading 'Outcomes Based Education.'

Finally, this chapter looks at ways in which programs are monitored and evaluated by end-users so that failures and successes can be readily identified.

The following areas of concern are discussed in Chapter Four: The Way Forward for the development of Environment Education in Islamic Schools within the South African context.

- How Islamic schools should plan holistically for the sustainability of Environment Education (EE)
- How educators can complete Instructional Development Plans for EE
- How educators can “curriculate” using the “Alabamaⁱⁱⁱ” model
- How schools can conduct an Environmental Audit

ⁱⁱⁱ In the state of Alabama, USA, each subject has a clear educational flowchart showing the educational journey of the learner. It shows what for example the learner will do in each grade in the Sciences from Grade R to Grade 12.

- An example of an ecological field-trip and the skills involved: using the Zimbali to Tinley Manor Beach hiking experience.
- A comparative study of Environmental Education in Malaysia
- School projects: how to start and organize these activities
- How schools can establish vegetable gardens as financially lucrative projects
- Greening/horticultural projects
- Adding value to schools: petting zoos, atrium
- Resources for the Library Resource Centre
- Classroom Practice
- Integration of Quran and Sunnah in lessons
- The School and the community in EE projects
- Motivating learners
- The realization of the importance of this research: the follow up with the Jamiat and Association of Muslim Schools (AMS)
- AMS: 1996: The realization of the “Islamisation dream” via this EE project

Chapter Five deals with concluding remarks on the topic of **Islam and the Environment** and identifies future projects which the author will be involved in as action-research so that the thesis is *praxiological*. This chapter provides further impetus for research on the issue of Environmental Education within the parameter of Muslim institutions in South Africa in the following areas:

- Suggesting a curriculum for South African Islamic schools to the South African Qualifications Authority (SAQA) in conjunction with the Islamic Studies Standards Generating Body.
- A historical research into the existence of artefacts in South African Muslim communities.
- Action research: an implementation plan for work-shopping issues concerning Environmental Education in South African Islamic schools.

2 CHAPTER TWO

Theoretical Viewpoints on Islam and the Environment within the context of Globalization

2.1 INTRODUCTION

This chapter provides a conceptual framework on the issues of “**Islam and the Environment**” and “**Islam and Globalisation**” which fall within the scope of the research topic. The epistemology of the concepts “**globalisation**” and “**environment**” must be analysed within the context of Islam due to the fact that the subject matter falls within the ambit of Islam. (This thesis establishes that Muslim countries are also affected by globalization). It must also be understood that the scope of this thesis lies within the School of religion and Culture. However, this does not exclude general references to the use of these concepts

The phenomena of ‘**globalisation**’ and ‘**environment**’ must not be compartmentalized but must be studied in tandem because **globalization** ultimately leads to the problems associated with the **environment**. The teachings of Islam cover all facets of life. Precepts on the relationship between human beings (either directly or indirectly) and the environment are primarily available in the primary sources of Islam viz. the Quran and the teachings of the Prophet Muhammad (*Ahadith*). The other two sources of knowledge on the subject matter in focus are the *Ijma* (consensus of the scholars) and *Qiyas* (analogy). However, the Quran is regarded as the pivotal source of most of the primary literature related specifically to this chapter on *the environment*.

The Quran is our reference source and this follows from *Surah-al-Bakarah (The Cow)* when Allah proclaims:

‘This is The Book; In It is Guidance sure,

without doubt, to those who fear God.’ (Quran, 2:2)

2.2 GLOBALISATION

2.2.1 *Defining Globalisation*

Globalisation refers to the shrinkage of the world into one global village. Issues pertaining to the role of the IMF, WTO^{iv} and the World Bank become common concerns when globalisation is being discussed. The demands placed by globalisation especially by First World countries on Third World countries have exacerbated pollution, environmental despoliation and have had a profound effect on the environment in general. The conceptual framework of globalisation extends beyond its demands to a political agenda set by First World countries and an eagerness to achieve this at all costs often resulting in wars, forced occupation and an erosion of the culture of people in poorer countries. These have compounded the effects of pollution on the environment.

The South African author Karolia (2000:1)) describes globalisation as the extension of 'globalism' which relates to a global political view i.e. a belief those political policies should take a worldwide issue into account before focusing on national or state concerns. He adds that the word 'globalisation' in the Encarta dictionary is defined as 'the process by which social institutions become adopted on a global scale or when a business starts operating at an international level'.

The word 'global' according to Karolia (2000:2) also relates to events taking place throughout the world. The world has now been set according to an order by First World countries so that all manufacturing and trade (movement of people, goods and money) is controlled by First World standards. The word **globalisation** constitutes a form of **hegemony** (control, supremacy). This extends to the adoption of plans to also control thought and association. President Bush reiterated after the September 11 attacks:

"You are with us or against us!"

Globalisation has in effect resulted in unprecedented levels of toxic waste that is destroying our earth's biosphere. Globalisation, used in the wider sense of the word also

^{iv} International Monetary Fund and World Trade Organisation

threatens individuality and freedom of expression in poorer countries. It is believed that globalisation threatens self-determination.

The table below illustrates the effects of globalisation on the earth.

Table 2: Effects of globalization

GLOBALISATION: TRANSLATION AT THE LEVEL OF PRAXIS	EFFECTS TO COUNTRIES AND THEIR ECONOMIES
<ul style="list-style-type: none"> • Accelerated Industrialisation • Increased world trade • Greater need for lending/borrowing money on interest • Trade Tariffs set by the First World • Trade Embargoes • Domination by First World countries over exports/imports • Norms and standards set by First World countries • Currency manipulation • Drug trade and its effect on the economy • Orientalism 	<ul style="list-style-type: none"> • Erosion of self-determination • Political hierarchies of power: leaders are placed and not elected. • Environmental destruction • World order/classification • Famine • Droughts • Rural-urban migration and its concomitant effects • Global Warming • Deforestation

One can be sure that virtually every one of the 2822 academic papers written on 'globalisation' in 1998 included its own definition, as would each of the 589 new books on the subject. Many see it as a primarily economic phenomenon, involving the increasing interaction, or integration, of national systems through the growth in international trade, investment and capital flows.

However, one can also point to a rapid increase in cross border social, cultural and technological exchange as part of the phenomenon of globalization.

According to www.globalisationguide.org the sociologist, Anthony Giddens, defines globalization as a decoupling of space and time, emphasizing that with instantaneous communications, knowledge and culture can be shared around the world simultaneously.

A Dutch academic who maintains the web site <http://globalize.kub.nl>, Ruud Lubbers, defines it as a process in which geographic distance becomes a factor of diminishing importance in the establishment and maintenance of cross border economic, political and socio-cultural relations. In effect, the entire trade system within the world is now enhanced as countries can now communicate with each other. Global satellite tracking technologies can even identify agricultural and industrial activities in the remotest parts of the world. Developing countries cannot escape globalization as the advance in agricultural science in the form of fertilizers, nematicides, pesticides, insecticides and other advances in hybridization and *genetically modified foods* is able to reach all corners of the earth.

This acceleration in activities albeit agricultural or industrial has a damning effect on the environment.

It is hoped that the connection between globalization and the environment has been established. The left critics define globalization quite differently, presenting it as a worldwide drive toward a globalised economic system dominated by supranational corporate trade and banking institutions that are not accountable to democratic processes or national governments.

Globalisation is undeniably a capitalist process which has taken off as a phenomenon in the wake of the collapse of the Soviet Union and of socialism as a viable form of economic organization.

Globalisation in actuality must be studied in the context of its effects on poverty, the environment, gender, culture and political structure and dynamics.

David Held and Anthony McGrew write in their entry for Oxford Companion to Politics that globalization can be conceived as a process (or set of processes) which embodies a transformation in the spatial organization of social relations (www.polity.co.uk/global/)

In Figure 1, it is quite evident that *globalization* has placed unnecessary pressure on Third World resources because of the unusually high demand placed by First World countries on its resources. Label 2 represents this *outflow* of resources. The entire ecological balance of Third World countries has changed. Vast tracts of forest have been removed as the demands placed for the supply of timber remains crucial to its survival. Label 1 represents the outflow of finished goods from First World countries and an *inflow* of imported goods into developing countries.

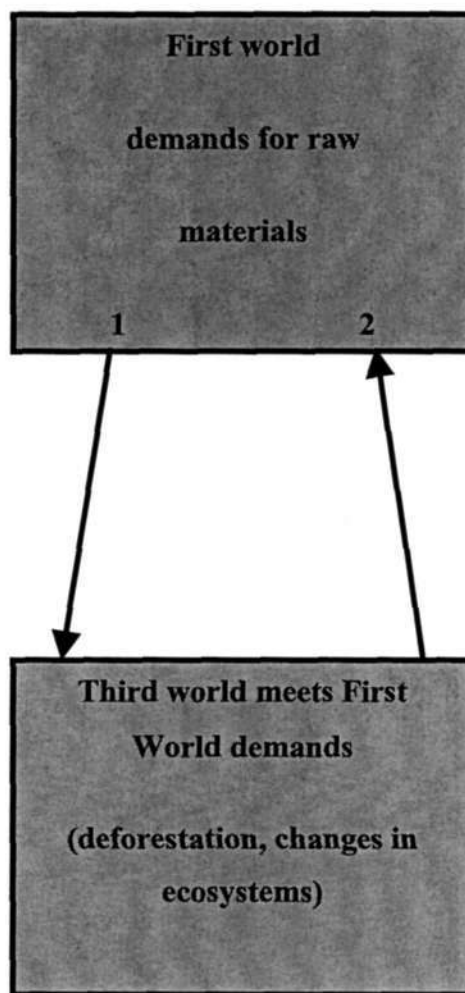


Figure 3: World Trade System based on *Globalisation* trends

This has increased foreign debt because raw materials exported bring less revenue in foreign income and finished imports cost more. This results in an *unfavourable balance of trade*. The economics of capitalization have led to the over-concentration of vast

human populations in urban environments. The incidence of pollution in urban areas is unparalleled. This has negative impact on human health.

The effects of *globalisation* on the natural environment are serious and threaten our very existence. To counter globalisation and to protect the environment has become obligatory on every Muslim.

2.2.2 *The Beginning of Globalisation*

The following paragraphs will present a historical perspective of when globalization began. The facts have been accessed from a paper by Mauro Guillen from the Wharton School and Department of Sociology at the University of Pennsylvania. (Paper: Is Globalization Civilizing, Destructive or Feeble? A Critique of Five Key debates in the Social Science literature) <http://knowledge.wharton.upenn.edu/show>)

There is no agreed starting point for globalisation, but an understanding of globalization traces its starting point to the first great expansion of European capitalism in the 16th century, following the first circumnavigation of the earth from 1519 to 1521.

There was subsequently a big expansion in world trade and investment in the late nineteenth century. This was brought to a halt by the First World War and the bout of anti-free trade protection that led to the Great Depression in 1930. Some see this period as an interruption of the process of globalization which continued in the late 19th century. Many globalization dissidents also see *colonization* as another subversive form of globalization.

A sense that the world was united was generated by the establishment of the International Date Line and World Time Zones, together with the near global adoption of the Gregorian calendar between 1875 and 1925. During this period, international standards were also agreed upon for telegraphy and signalling.

The end of the Second World War brought another great expansion of capitalism with the development of multinational companies interested in producing and selling in the domestic markets of nations around the world. The emancipation of colonies created a

new world order. Air travel and the development of international communications enhanced the progress of international business.

The fall of the Berlin Wall and the collapse of the Soviet Union ended the cold war between the forces of capitalism and socialism with capitalism triumphant. The development of internet made possible the organization of business on a global scale with greater facility and ease than ever before.

2.2.3 Islam and Globalisation

The point of departure is that most writers discuss 'globalisation' within the paradigm of the struggle for world domination by Jews. The point of departure of this study is to limit our research scope within the effects of 'globalisation on the environment.' Issues pertaining to the depletion of the ozone layer, AIDS, famine, the El Nino effect and global warming are some of the environmental issues facing Muslims. These concerns are common concerns facing First and Third World countries alike. This was evidenced in the Earth Summit (1992) and the World Summit on Sustainable Development (2002). The former Prime Minister of Malaysia, Dr Mahathir Mohamed warned the Muslim World at a meeting of businessmen and intellectuals in Qatar (circa 4 December 2001) about the effects that globalisation will have on the Muslim world (refer to Annexure A).

After 700 years of Khilafat^v, the Ottoman Empire (which could have stood up to and challenged *globalization* efforts) was dismantled to give way to the power for world domination and the struggle for survival. This signifies the reason for the inability of the Muslim world to resist globalization.

It is the task of this research to attempt and analyse how globalisation

- affects the environment

^v After the demise of Prophet Muhammad (PBUH), the entire Islamic economic system was passed down through the Caliphs (leaders who came after the Last Messenger, who were resilient and firm in their unwavering political, social, economic ways). This period ended with the collapse of the Ottoman Empire. There was a common currency used in the Islamic World until this collapse: a gold coin called the *dinar* and a silver coin called the *dirham* but these were not necessarily unified in size and weight. (by Sheikh Yusuf al-Qardawi. 2000. *Fiqh al Zakaat*, Muassasa al-Risalah, Riyadh)

- poses challenges to Muslims minorities to protect the environment.
- affects Muslim countries.

2.3 THE ENVIRONMENT

2.3.1 *Islam and the Environment*

In the following paragraphs a study will be attempted of the importance of the environment in Islamic literature with particular reference to the *Holy Quran*, which Muslims believe to be the divine book revealed to the Prophet Muhammad (PBUH) 1425 years ago in the city of Makkah. We must allude to the fact that the Quran, in its encyclopaedic magnificence, makes reference to many environments.

Figure 4 shows the various types of environments. For the purposes of this thesis, we focus on the natural/physical environment.

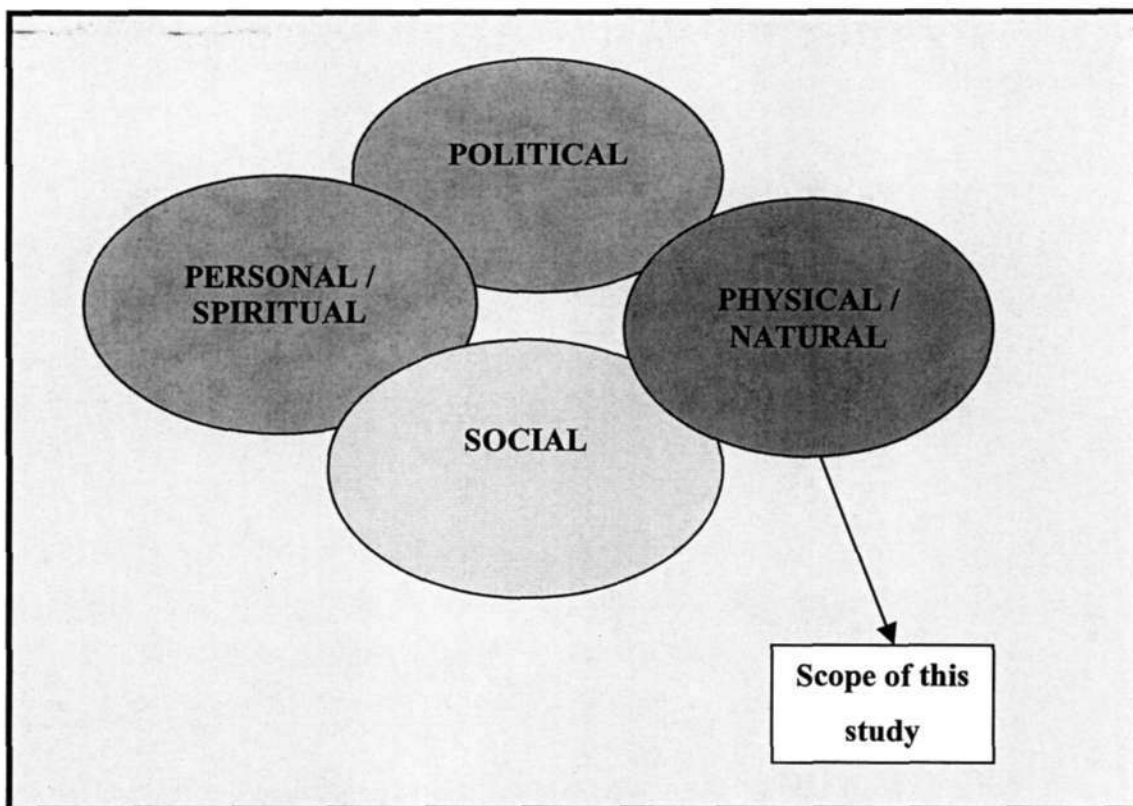


Figure 4: The major types of environments

The importance of the upkeep of the social and physical environment is reiterated by Hamid (1990) who cites the Prophet Muhammad (PBUH) who came across a group of people on the street and admonished them:

“Refrain from sitting in the streets.”“ Messenger of God,” they pleaded, “we cannot help sitting in the streets because there is no other place where we can sit and discuss matters.”

“In that case,” advised the wise Prophet, “fulfil the obligations of the street: restraining of looks, removal of obstruction, reciprocating greetings, enjoining good and forbidding evil.”^{vi}

In the above Hadith (from the life of the Prophet Muhammad), it is explicit how reference is made to all forms of the environment.

^{vi} This Hadith with a slight variation in wording is to be found in Al-Tabarani, Musnad Ahmad and al-Bazzar (al-Haythami 1986, 8:61)

A vital part of the well-being of any community is the concern for and upkeep of the environment. The cornerstone of all Islamic preaching is that people should aim at creating an environment that is clean, beautiful and peaceful because the Quran states: "God loves those who keep themselves clean and pure^{vii}" and the noble Prophet Muhammad (PBUH) said that: "Purity is half of the faith." It is the responsibility of every person to maintain a high degree of cleanliness in homes, streets, parks, shops, markets and other public places. Concern for the environment begins with the individual. An important emphasis of one's personal "*Tahārah*" (hygiene) will lead to one maintaining good habits concerning garbage disposal, keeping streets clean and promoting a beautiful environment.

One of the principles of the Shari'ah, based on a saying of Prophet Muhammad (PBUH), which is applicable to the environment, is *Lā darar wa lā dirār*^{viii} – there shall be no injury nor perpetuation or reciprocation of injury. This applies to land and water use, the construction of buildings and walls, rubbish disposal and the like.

This thesis recognizes that Islam's position on the various types of environment is unequivocally biased towards the attainment of a pure, clean environment *albeit* this refers to one's personal, social or physical environment. However, the scope of this thesis is limited predominantly to the physical or natural environment. Islam's position on the environment is absolutely clear from the categorical statement in the *Holy Quran* that man is a Khalifah (representative) of Allah in this world and should accordingly protect and preserve the environment. This tenet forms a part of one's *'Aqidah* (faith). There are numerous verses in the *Holy Quran* that discuss various aspects of the natural phenomena within the natural environment such as the *presence of animal communities* (6:30), *instinct and habitat* (16:68-69), *animal communication* (27:28), *invisible barriers within the sea* (25:53), *creation of heaven and earth* (16:12), *vegetable kingdom* (6:99; 13:4), *animal kingdom* (6:38), *bees* (16:68-69), *spiders* (29:41) and *human reproduction* (82:6-8).

^{vii} In Fazlul Karim 1940 *Al-Hadis*. Lahore. The Book House. Volume 1

^{viii} Ibn Majah, Sunan, Chapter on *Ahkaam*, Hadith: 2340/2341 volume 3, page 117, Beirut, Dar al-Kutub al Ilmiyah, 1998.

It is also clear that the *Khalifah* is charged with the task of creating an environment and surroundings where Allah is worshipped and His word is promoted and elevated and the natural environment is to assist in achieving this.

Verses^{ix} emphasizing the importance of water:

“And We send down from the sky rain, charged

with blessing

And We produce therewith gardens and grain

for harvest,”

The above verses illustrate the importance of the environment to Muslims.

2.3.2 *Impact of the Environment*

The environment is one of the most understated facets of our education systems. Yet, children form an indelible and integral part of the environment. The environment shapes them and they even shape the environment.

Educationists have unanimously agreed that social surroundings form one of the most significant elements in the formation of the human personality and the achievement of the individual's desires within the general framework of civilization depends on environmental factors. Congenial surroundings reduce tensions and aspects of abhorrent behaviour.

Islam recognizes this first:

- The choice of a good spouse who in turn influences offspring.
- Selection of friends

^{ix} Sura Luqman, Verse 10, Zumar, verse 21

- Every child is born in the state of *Fitrah (natural state)*. It is his parents who make him Jew, Christian, Magus^x (Hadith)

2.3.3 Types of Environment

Educationists also agree that there are mainly two types of environments in which human beings live and the types we should be mindful of:

One: The Natural or Physical Environment

This comprises all of the natural surroundings. The entire biosphere, along with the constituent parts of the sea, oceans, lakes, rivers (hydrosphere: aquatic ecosystem), mountains, land, valleys (terrestrial: lithosphere), air, gases (the atmosphere) in addition to all its powers and energies form part of the natural environment. Biotic communities (plant and animal life) form niches and habitats within the vast realm of an intricate relationship between all living (biotic) and non-living things (abiotic elements). Physics, chemistry, geology, botany, zoology and hydrology are some of the sciences study the natural environment.

Two: The Social Environment

The social environment is created by the interaction of people, groups and nations. Economic, political, professional, cultural and psychological relations are the components of the social environment. History, geography, sociology, psychology, economics, political science and philosophy relate to a study of the social environment.

Islam has been hugely concerned with the environment since it is an important element in the definition of the purpose of mankind on this planet. Good environments, whether this refers to the social or natural environment, support nations in their quest for optimal success in developing individuals who thrive and prosper responsibly, intellectually and

^x Fire worshipper. This Hadith was narrated by Al-Bukhari and Muslim

economically within a protected, clean natural environment which fosters aesthetic appeal.

Good environments support nations with the best and most proficient individuals who progress in great steps in the fields of virtue and reformation. In like fashion, evil, unprotected environments exacerbate vile, licentious individuals who promote negative behaviour among people. Classic examples of people who live in harmony and in equilibrium with their immediate environment are the *Bedouins of Mauritania* who thrive and produce great Islamic scholars in their respective environment.

The authorities on *Islam and the Environment* in the world today are Mustafa Abu-Sway, Abdulaziz Sachedina (1999), Ibrahim Ozdemir (1998)^{xi} and Sheikh Abdul Majid Zindani (Yemen). Their works herald great promise for the literary and empirical mastery which Islam sought after the demise of the likes of Ibn Sina, Ibn Khaldun and Ibn Batuta.

2.3.4 The bio-diversity of life and the principle of *Amānah*

On land, sea and in the air exists a vast variety of plant and animal species and organisms.

“No creature is there crawling on the earth,

no bird flying with its wings

but they are nations like yourselves.”^{xii}

^{xi} Ibrahim Ozdemir, Ph.D. delivered his paper **An Islamic Approach to the Environment** at an Educators’ Forum at the Islamic Unity Convention (Cape Town, South Africa) and Mustafa Abu-Sway and Abdulaziz Sachedina delivered their address on the occasion of the Nineteenth Annual Convention held in Durban, South Africa, April 1999. Their book is titled *Islam, the Environment and Health*. Dr Aby Sway is presently at the University of Al Quds in Jerusalem where his work on environmental issues still enjoys prominence in the literary world.

^{xii} Quran, 6:38

Each organism has an intricate place in the interdependent food webs of ecosystems. Each species, which makes up the vast Creation or what we call Nature, is a sign of God's Grandeur. To gain more knowledge of its existence and role is to increase our faith in Allah. The love and respect for Nature is an act of *Ibadah* (Worship) and the act of *trusteeship* is to increase *Imān* (Faith). This chapter qualifies that natural resources are a gift to man which must be used judiciously for benefit. Man is given *authority* by Allah in the Quran, but this *right* must be engendered by an equal act of moral *responsibility* to co-exist with nature.

The ethics of *Amānah* is illustrated by the following narrative^{xiii} from the life of Prophet Muhammad (PBUH).

A woman was punished because she punished a cat.

She entered the fire because of this. She didn't feed

it nor give it anything to drink and neither

did she leave it to eat from the insects on the

ground.

As we have noticed in this chapter, from the numerous verses from the Glorious Quran on the *environment*, Islam provides a system of intrinsic values for creating a better world. One needs to be aware of these values in constantly trying to apply them to one's life, to the lives of those around you and to the environment.

As a human being, your relationship to the environment is not based on immediate needs and wants but is shaped by your consciousness of the needs of future generations.

^{xiii} Bukhari and Muslim, cited by Imam Al-Nawani in *Riyad Al-Saaliheen*, Hadith: 1600. Muassasa Al-Risalat, Beirut, 1991.

The destruction of the environment is unrelenting, but the message this thesis send to all its readers is one of hope, which is illustrated by the Hadith below:

“If the Hour [Resurrection] is imminent and anyone of you has a palm shoot in his hand and is able to plant it before the Hour strikes, then he should do so (people need to live) and he will be rewarded for that action.”^{xiv}

In Hayat-us-Sahaabah, we find the following two inspiring incidents about the need to be kind to animals and the environment:

- The instruction given by Hazrat Abu-Bakr to the Sahaabah when they went out on Jihad was that they ought not to kill animals except for food and nor were they to cut down or destroy fruit trees.^{xv}
- The incident related by the Prophet Muhammad (PBUH) wherein he prohibited the branding of animals on the face^{xvi}.

2.3.5 *Environmental Crisis in the Muslim World*

The problems pertaining to the environment are indeed very serious. The American invasion of Afghanistan and Iraq and the continued war occupation of Palestine have further exacerbated the situation and threaten the very basis of Muslim countries. This thesis recognizes that many Muslim countries are just as concerned as developed nations about the large scale destruction of natural resources and the need to inculcate an environmentally friendly culture.

According to Ozdemir (1998), we have 4095 environments. It is insufficient to understand only the existence of the natural environment. As Muslims, we also

^{xiv} This Hadith is to be found in al-Haythami in his *Majma al Zawaa'id* volume 4, page 63

^{xv} Al-Tirmidhi, *Sunan*, Chapter on *Siyar (military expeditions)* Hadith 1522, Riyadh. Darussalam Publishers.

^{xvi} Al-Tirmidhi, *Sunan*, Chapter on *Jihad*, Hadith 1710, Riyadh. Darussalam Publishers.

subscribe to the tenets of the Quran which reiterate that Allah reigns sovereign over all environments as He is the Sustainer.

We observe this in the Quran:

To God belong the East and the West,

Whithersoever you turn,

There is God's countenance,

For God is All-Embracing, All-Knowing^{xvii}

We therefore forge a link in their allegiance first and foremost to the Creator. Protection of the environment is service to God. Our environment is formed by our homes, our gardens, our surroundings, the car we drive, the air we breathe, the water we drink, the area we live in, the people we interact with. It also encompasses the oceans, seas, lakes, roads, mountains, valleys, forests and every other living and non-living entity that we interact with in our daily lives. We also have to understand what is meant by the "destruction of the environment." This refers mainly to "pollution" which refers to the dirtying and despoliation of the environment. There is air pollution reflected by the increase in upper respiratory diseases, noise pollution which causes permanent hearing loss (which occurs progressively), water pollution (increase in *e-coli* causes cholera), global warming (skin cancer), and the El-Nino effect (droughts, famines) and a host of other serious environmental issues which must concern every living individual on this planet.

Religion plays a paramount role in overcoming these problems as we develop a comprehensive and integral mental paradigm-shift in recognizing our role in this world with specific reference to what God requires of us. Thus, the religion of Islam can provide an important solution to overcome environmental problems.

^{xvii} Quran, 2:115

The point made by this thesis, just as the argument ensues for the introduction of Islamic Law to curb high crime rates is that the ecological crises which the world is witnessing and which threatens our very future could not have happened under a strict system of morality and law or under its conception of knowledge from the Quran and its application. Unfortunately, *globalization* threatens Islamic values as environmental issues are low or even totally absent on the agenda of Muslim societies. Nowhere in Muslim societies is the Shari`ah related to *environmental issues* adhered to in its totality.

2.3.6 *Environmental Awareness: An Islamic Paradigm*

This paradigm shift has to be an Islamic one and we can now safely agree that there exists an Islamic paradigm which can currently address environmental issues. This Islamic paradigm which focuses on the environmental crisis we face is deeply entrenched in the concepts of *Tawhid*, *Khilafah* and *Amanah*.

Tawhid, in Islamic terms implies the Oneness of Allah and that He is the Creator, Sustainer, Owner and Master of the Universe. To Him alone are we to submit and Muslims are ultimately responsible for an account of their deeds on the Day of Reckoning.

The other two concepts of *Khilafah* and *Amānah* (can be interpreted into *Khilafah*) originate from the concept of *Tawhid*.

Khilafah implies that humans are the vicegerents on this earth. This implies “stewardship” of all that exists in the Universe. The Almighty Allah reigns sovereign over the earth and its contents but it is the understanding of every Muslim that we have to be responsible on earth. The earth and its contents are entrusted to us as an *Amānah* (trust).

Amānah implies that we are to utilize, maintain and protect the earth in accordance with the Quran and teachings of Prophet Muhammad (PBUH). Science forms an integral part of the Islamic worldview and does not contradict it and, therefore, it is taken into consideration as well in maintaining and protecting the earth.

*“Behold! In the creation of the heavens and the earth;
in the alternation of the night and day; in the sailing of
the ships through the oceans for the profit of
humankind; in the rain which Allah sends down from
skies,*

*and the life which He gives therewith to an earth that is
dead; in the beasts of all kinds that He scatters through
the earth; in the change of the winds and the clouds
which they trail like their sleeves between the sky and
the earth – here indeed are Signs for a people that are
wise.^{xviii}*

The above verses of the *Holy Quran* require an examination of the intricate relationship between the various constituent elements of the environments. Animals, rains, day, night and the oceans are mentioned with reverence.

It is with great veneration that the above verses, upon closer analyses reveal the following:

- **Behold! In the creation of the heavens and the earth**

This implies closer inspection and research which is needed in “unpacking” the various forms of creation. It means to watch, see or take a closer look.

- **In the alternation of the night and the day**

The rotation of the earth is implicit here

^{xviii} Quran, 2:164

- In the sailing of the ships through the ocean for the profit of mankind

Ships sailed in the days of antiquity with the assistance of winds. Winds were generated by the effects of Coriolis Force

- In the rain which God sends down from the skies

The concepts associated with rain formation (clouds) come to mind: evaporation, condensation, convection currents, hygroscopic nuclei, and thermal dynamics.

- And the life which he gives therewith to an earth that is dead

Principles of infiltration, water pore spaces, water as a medium for photosynthesis are explicit.

- In the beasts of all kinds that he scatters through the earth

The principle of *biodiversity of animal species* is absolutely clear here.

- In the change of the winds

Change in wind direction (monsoons), off-shore, on-shore winds, land breezes, sea breezes are mentioned here. The Quran distinguishes between **Reeh** (winds that cause havoc) and **Riyaah** (winds that bring about favourable results)

- [Here] indeed are signs for a people who thinks

Unfortunately, the signs are only reserved for people who are prepared to investigate these phenomena through empirical investigation.

The above verse illustrates why Muslims must turn to the Quran when studying the environment. The duty of each individual believer is embodied in the next verses of the *Holy Quran*, which provide the basic tenet for our explanation as to the role of humans in protecting the environment.

The stem of this argument is strengthened when we are reminded to be God's vicegerents and trustees. Our trust is articulated and sheer faith exudes the creation

when we preserve the environment and do not waste wantonly when consuming for production or for personal use.

The verses below from the Quran (56:62-74) reveal this paradigm:

And you certainly know already the first form of creation, why then do you not celebrate His praises?

See you the seed that you sow in the ground?

Is it you that cause it to grow, or are We the cause?

Were it Our will, We would crumble it to dry powder, and you would be left In wonderment,

(Saying), "we are indeed left with debts [for nothing];

"Indeed are we shut out [of the fruits of our labour."]

See you the water which you drink?

Do you bring it down [in rain] from the cloud or do We?

Were it Our will, We would make it salt [and unpalatable], then why do you not give thanks?

See you the fire which you kindle?

Is it you who grow the tree which feeds the fire, or do We grow it?

Is it We Who make it a means to remind you [of Us], and an article of comfort and convenience for the denizens of deserts.

Then celebrate with praises the name of your Sustainer, the Supreme!

For every Muslim, the nature of Allah as *Al-Muhit* and as *Al-Hastib* (One who takes perfect account) provides for a case for a standard of respect, love, concern and care for the environment. The love for Allah makes it necessary that human beings care for the environment which on the one hand sustains them and, on the other hand, it is loaded with signs that point in the direction of the Creator. Such a standard can either be driven out of a *fear* for Allah or through *love* and *adoration* for Allah's countless creations.

The pivotal desire of every Muslim is to become *Abd-Allah* (servant of Allah) and it is within this paradigm that Muslims are allowed maximum latitude to develop as part of their *Taqwa* (The Fear of Allah) a greater concern for the environment. Islam then enjoys the status of being a clearly defined "way of life" as opposed to being narrowly defined as a religion. Prophet Muhammad (PBUH) declared that the "whole of the earth is a mosque that is a place of worship."^{xix}

This emphasizes that Muslims should treat the world with care and utmost respect as they would do with a mosque. This saying, embodied in the teachings of the Prophet Muhammad (PBUH) develops a framework of environmental consciousness and places great prominence on the issue of *sustainable development*.

Several similar parameters of reasoning are presented as an outline for Muslims seeking to establish that ultimate bond with Allah through a concern for the environment. This relationship is cast as a part of a broader paradigm of life, referred to as the '*Fitrah Paradigm*.'^{xx} This paradigm refers to the natural state of balance and the harmony that should exist between the Creator and His creation.

When the early and first verses of the *Holy Quran* are examined carefully, it is clearly evident that these verses invite people to examine the heavens and the earth. The components of the environment: birds, bees, ants, plants, olives, grapes, the oceans,

^{xix} Karim, F. Volume 3, page 208

^{xx} From a radio talk-show hosted by Professor Suleman Dangor on Radio Al-Ansaar on Thursday, 7 November 2002 (2 Ramadaan 1423). The *Fitrah Paradigm* also refers to one's instinctive, natural disposition which makes a person liable/accountable to Allah. Every human being is basically born a Muslim {Hadith: Every child is born in a state of natural disposition}, and one has to acknowledge the existence of Allah.

mountains, the moon, fish, camels, horses, rain, wind, earthquakes and the like are some of the natural phenomena mentioned extensively in the Quran. By virtue of the constant repetition, it is incumbent upon every human being to develop an inquiring mind over the natural environment. The scope of this thesis reflects that this is the case for Muslims who need to take heed of their surroundings and take special care of these bounties.

Everything in nature is a sign of God's existence and the Quran expresses this truth as follows:

*We shall show them our signs in the [furthest] regions
[of the earth],*

And in their own souls.^{xxi}

Islam, as the final Divine religion is associated with the *Holy Quran* which symbolically represents the "bench-mark" and norm for one's relationship with the environment. The concept of the *environment* within *Islam* is also significantly sacred as it calls for people to realize that their very existence depends on God, the Sustainer and the Cherisher. The environment and its respect thereof are saddled with the concept of retribution and accountability.

Every human will be answerable for his use of the environment. This is signified in:

So glory to Him in Whose hands is the dominion of all things,

And to Him will you all be brought back.^{xxii}

Abu-Sway and Sachedina (1999) refer to the following categories in their definition of the relationship between human beings and the environment:

^{xxi} Quran, 41:53

^{xxii} Translations from Yusuf Ali, *The Holy Quran*: 1983. This verse – Quran:36:83

The concept of man's relationship with the environment as prescribed by the *Holy Quran*

The following three concepts will be analysed in relation to the *Holy Quran*. The three concepts are paramount in attempting to understand the pivotal concept of this thesis: *Islam and the Environment*.

These concepts have been summarized and adapted from the works of Abu-Sway and Sachedina (1999)

1. **Vicegerency** [*Khilāfah*]
2. **Subjection** [*Taskhīr*]
3. **Inhabitation** [*I'mār*]

1. Vicegerency [*Khalifah*]

Every human being, in the Islamic world-view is considered a vicegerent (khalifah). This vicegerency is declared before the creation of the first human being:

“Behold, your Lord said to the angels:

‘I will create a vicegerent on earth.’

They said: “Will place therein one who will make mischief

therein and shed blood? While We do celebrate Your praises

and glorify Your holy (name)?” He said: ‘I know what you

want not.”^{xxiii}

The Quran emphatically stresses that every human being is endowed with the innate quality of trusteeship during his/her *sojourn* on earth. The basis for this argument stems from the fact that the desired (ideal) relationship between God as Creator and man as subject (creation) is based on the creation's attainment of high levels of morality, accountability and good stewardship.

Thus, care of and for the environment, being clean and hygienic, planting trees, love for insects and animals, nurturing plants and the like leads to a mutually satisfying Hereafter. Life on earth entails great responsibilities. Life on earth tests one's capacity and intrinsic quality of accountability (*Amānah*).

This life in the here is followed by a life in the hereafter wherein *retribution* is central. The concepts of reward and punishment come to mind here.

Vicegerency, as a test and command from Allah is found in the following verses of the Quran:

"It is he who has made you (His) vicegerents, inheritors of the earth:

He has raised you in ranks, some above others: that he may try you

On the gifts He has given you: for your Lord is quick in punishment:

Yet He is Oft-Forgiving, Most merciful. ^{xxiv}

On the other hand, this vicegerency is subjected to scrutiny:

^{xxiv} Quran, 6:165

“Then We made you heirs in the land after them, to see how you would behave!”^{xxv}

The Prophet Muhammad (SAW) also implied the same message in the Hadith (al-Haythami 10:246):

“Verily, this world is sweet and appealing, and Allah placed you as vicegerents therein; He will see what you will do. So, be careful of [what you do] in this world and [what you do to/with] women, for the first test of the children of Israel was in [how they related to] women!”

It is quite clear from the saying and the verses of the *Holy Quran* that we have established a sense of representation (khalifat). Each individual relates to the environment and this horizontal bond is based on a test. It is also quite clear from other parts of the Quran that if there is negligence on the part of any nation to take care of the environment and there is wilful neglect, nations can be replaced by new ones who are more responsible:

“Call in remembrance that he made you inheritors after the people of Noah.”^{xxvi}

and as in:

“And remember how He made you inheritors after the people of ‘Ad and gave you habitation in the land.”^{xxvii}

^{xxv} Quran, 10:14

^{xxvi} Quran, 7:69

^{xxvii} Quran, 7:74

The declaration of the concept and institution of *Khilāfah*, which Allah informed the angels about, was reinforced by the following verse from the *Holy Quran* which signifies that Allah placed great significance to the first created human being on earth, Prophet Adam (PBUH) as Allah proclaims to have taught Prophet Adam the names of all things existent:

“And He taught Adam the nature of all things.”^{xxviii}

The above explanation quantifies (with specific reference to the Divine scriptures) that there is a natural connection between guided knowledge and the proper way of life. This thesis further qualifies that the Quran is the *panacea* and the focal point from which essential knowledge relating to a proper conduct and *modus operandi* for our existence on this earth is based upon.

Therefore, *vicegerency* is based upon knowledge that enables the human being to be a care-taker of the environment in which he/she dwells. Humanity should behave in such a way that a balance (state of *homeostasis*) is maintained between human beings and the environment.

“And the earth We have spread out: set thereon mountains firm and immovable; and produced therein all kinds of things in due balance.”^{xxix}

2. Subjection (Taskhīr)

This is one branch of knowledge found in the *Holy Quran* which relates to Islam’s interpretation of this subjection according to the tenets on the *environment* with particular *respect* to the *Holy Quran*. . Every Muslim is however bound to the earth, in its inception phase. During the time of Prophet Adam, the earth was made available to humans in a clean, pristine state.

^{xxviii} Quran, 2:31

^{xxix} Quran, 15:19

The constituent parts of the world environmental system are great and complex. The myriad of things available for human use (and not abuse) are cited in numerous verses in the *Holy Quran*:

“And He has subjected to you, as from Him, all that is in the heavens and on earth: behold, in that there are Signs indeed for those who reflect.”^{xxx}

In the above verse, it is evident that the environment is given as a bounty to humans.

“Do you not see that God has subjected to your (use) all things in the heavens and on earth. And He has made His bounties flow to you in exceeding measure, (both) seen and unseen?”^{xxxi}

Allah qualifies that there are things available for human use and these are in large quantities.

It is also clear that even *microscopic* elements are created by Allah with obvious reason.

“He has made subject to you the Night and the Day; the Sun and the Moon;

^{xxx} Quran, 45:13

^{xxxi} Quran, 31:20

*and the Stars are in subjection by His command: verily
in this are Signs for people who are wise.*^{xxxii}

Upon closer analysis, the verses above reveal that:

- Allah reaches out to people who read and research because it is these people who will inevitably interpret His meanings and protect the environment. The message here is especially clear to those practising in the training profession who must read, interpret and impart lessons from the encyclopaedic Quran
- The “Signs” refer to all those elements of the environment which attest to the fact that all Creation is due to the mercy of the Almighty. The sun for solar energy, the moon for centrifugality, the stars for direction, the oceans for travel and transport, the mountains for granite and stone, the valleys for flood plains, rocks for minerals and aquifers are just at the “tip of the iceberg” in the scope of things related to the environment.

Furthermore, Abu-Sway and Sachedina (1999) refer to *Taskhīr* as one branch of faith in the sense that we all become duty-bound to respect what has been given to humans and to use the natural resources with care.

One also finds that the *environment* has other subjected matter (items under discussion) in the likes of:

- ***The temporal nature of the environment***

The reason in reminding us of the temporality of things is to remind one of the Hereafter.

^{xxxii} Quran, 16:12

It is hoped that once people become conscientious of the limitation of life on earth, they will behave in a positive and responsible manner. As a result of this element of *temporality*, it is anticipated that the environment can only benefit from such a perspective. The temporary nature of the cosmos and all natural phenomena is reflected in this verse:

“He has subjected the sun and the moon (to His law)! Each one runs (its course) for a term appointed. He does regulate all affairs, explaining the Signs in detail, that you may believe with certainty in the meeting with your Lord.”^{xxxiii}

- *Provision of sustenance*

“It is He who has made the sea subject, that you may eat thereof flesh that is fresh and tender; and that you may extract there from ornaments to wear; and you see the ships therein that plough the waves, that you may seek (thus) of the bounty of God and that you may be grateful.”^{xxxiv}

The above verses reflect Islam’s position on the *marine environment* with particular reference to protein food, pearls derived from oysters which can be used as items of adornment and the ocean as a medium of travel. We are also reminded to be grateful for these bounties.

Allah also reminds us of the above in the following verse:

“It is God who has created the heavens and the earth and sends down rain from the skies, and with it brings

^{xxxiii} Quran, 13:2

^{xxxiv} Quran, 16:14

out fruits wherewith to feed you, it is He who has made the ships subject to you, that they may sail through the sea by His command; and the rivers (also) has He made subject to you.”^{xxxv}

The elements of the environment commonly referred to in the *Quran* are *inter alia*:

Rain, clouds, rivers, oceans, animals, insects, plants, mountains, fish, lakes and the like.

This strengthens our case in confirming that the *environment* is inextricably linked to Islam’s highest authority: *The Holy Quran*.

Inhabitation” (I’*mār*)

The *Quran*, moreover, makes it clear that the earth is our habitat and that we are required to dwell on it, work it out and establish a balanced way of life with emphasis on *sustainable development*. The West emphasizes the use of our natural resources in such a way that these are conserved and preserved over time so that items found in the environment are not depleted into extinction. However, Islam has another view on extinction. In Surah Hud, Verse 6, Allah says:

“There is no creature on the earth except that Allah has taken it upon Himself to sustain it.”

*I’*mār** refers to the distribution and density of the human population across the face of the earth. However, it is explicit that prosperity can be achieved through proper conduct and reverence to the Almighty’s command. The following verses of the *Quran* bear reference:

^{xxxv} Quran, 14:32

“Do they not travel through the earth; and see what was the End of those before them? In strength they tilled the soil and populated it in greater numbers than these have done: there came to them their Apostles with Clear (Signs), (which they rejected, to their own Destruction): it was not God who wronged them, but they wronged their own souls.”^{xxxvi}

^{xxxvi} Quran, 30:9

2.4 CONCLUDING REMARKS

The conceptual framework related to *globalization* and the *environment* within the context of Islam was presented with a view to emphasise the need to *self-actualise* the need to protect and conserve our natural resources.

An active concern for the environment must spring from a sense of trust or *amānah*.

Man must live on this earth, according to Islam, as a trustee. A trustee is someone who does not own things as of right but is responsible for their proper management. Man, as a *khalifah* and *trustee* has the duty to ensure that the rights he enjoys to the earth's resources are not abused. He is not for example to pollute the drinking water of the earth nor is he to slaughter animals except for food.

There must therefore be a strong link between *faith* and an active social conscience just as there is a link between disbelief and hypocrisy on the one hand and callousness and inhumanity on the other. From evil motives of power and greed (drive towards capitalization) and necessarily from need, and with accelerated technology, man has wilfully depleted the earth's natural resources, produced, and continues to produce waste and pollution on an unprecedented scale. His science and technology and the drive towards capitalization at all costs has produced stockpiles of enough nuclear, chemical and biological weaponry to decimate the earth over and over again.

Globalisation has further exacerbated the situation as Third World countries have all queued up to change their economies towards mass production of raw materials. The cycle is obviously vicious and the only solution lies not in techno-centricity but in Islamo-centricity. The pivotal point for a return to a respect for the environment must surely lie in a respect for Divine commands.

3 CHAPTER THREE

Empirical Research Findings into the status of Environmental Education (E.E.) in South African Muslim Schools and Institutions

3.1 INTRODUCTION

This chapter deals with research findings which focus primarily on South African Muslim society. The investigation is essentially **exploratory** in nature as it attempts to discover how important the environment is in South African Muslim schools and major Islamic institutions. The research population involved a **quantitative study** of Muslim schools and a **qualitative study** of the three main theological bodies in South Africa: The Jamiat^{xxxvii}-e-Ulema Kwazulu Natal (JUKZN), the Muslim Judicial Council (MJC): Western Cape and the Jamiat-e-Ulema Transvaal (JUT). The above three bodies are old, trusted and represent mainstream South African society. The history of the Jamiat-e-Ulema Transvaal will give the reader an idea of its importance.

The Jamiat-e-Ulema Transvaal was established in 1923 to serve the religious needs of Muslims. It was originally founded by Moulana Mohammed Waliullah, but was later revived by Moulana Mohammed Mia, and Mufti Ebrahim Saljalvi. Many theologians spent their lives literally serving Muslims in the then old Transvaal through the auspices of the Jamiat-e-Ulema Transvaal. As the needs of the Muslim community grew, the JUT grew corresponding to this demand. Today the JUT serves its diverse population by six fully operational branches and six zonal representatives in six of the nine provinces of South Africa.

The following office bearers were interviewed in the institutionally-based part of the empirical study:

Mufti Zubair Bhayat: Jamiat-e-Ulema Kwazulu Natal

Moulana Ihsaan Hendricks: Muslim Judicial Council: Western Cape

Moulana Ebrahim Bham: Jamiat-e-Ulema Transvaal^{xxxviii}

Moulana Abbas Khan: Sunni Jamiat-e-Ulema Kwazulu Natal

The Soofie Darbaar Institute

^{xxxvii} *Jamiat* means "Society" and *Ulema* refers to Muslim theologians.

^{xxxviii} This refers to the Gauteng region. The old name for Gauteng is Transvaal.

Each interview was based on the following areas related to the environment.

- An idea of the main mosques in the province
- Do these major mosques include the topic of the environment in their lectures?
- Do their official newspapers carry articles on the environment?
- An idea of the main Islamic radio stations in the province and their programme coverage of environmental issues.
- Environmental programmes undertaken

3.2 THE QUALITATIVE RESEARCH

3.2.1 *The Jamiat-E-Ulema Kwazulu Natal (JUKZN) -Qualitative Interview With Mufti Zubair Bhayat*

Mufti Zubair is presently the Secretary General of the Jamiat-e-Ulema Kwazulu Natal (JUKZN) and he is also the editor of the official publication of the organization called *Al-Jamiat*. He was once an executive member of the JUKZN.

Mufti Zubair gave his viewpoints on the importance of the environment from the perspective of his organization:

According to Mufti Zubair, Islam and Environmental Education cannot be over-emphasised as this is stressed by Allah in the Quran and by the Sunnah^{xxxix}. The environment constitutes an integral part of one's Islamic *Tarbiyah*^{xl}.

Mufti Zubair lives in Stanger^{xli} and he used Stanger (Kwa Dukuza) as an example where the local paper mill (heavy industry) had exacerbated pollution levels in the town. The paper mill is a direct result of *globalisation*. The world demands on paper has increased production to such unprecedented levels that the mill operates 365 days of the year,

^{xxxix} Way of the Prophet Muhammad (PBUH) by practical example.

^{xl} Value system or total education (Reformation)

^{xli} Since this research, Mufti Zubair has now settled in Parlock, Durban (2005)

sections only being non-operational for short maintenance “shut-downs.” This pollution caused discomfort to residents.

He also pointed out the following forms of pollution associated with sugar cane burning:

- Air pollution from cane fires
- Ash settled on clothes

He was also aware of secondary smoke inhalation caused by smokers to passive smokers and the levels of carbon monoxide had increased lead poisoning in soils. Mufti Zubair sees all four categories of the environment: social, personal, physical, political as being equally important as they overlap each other.

The Mufti’s association with the JUKZN spans a period of 11 years.

The JUKZN has contributed to the protection of the **Environment** in the following ways:

Bursaries are given to previously disadvantaged students. These educational grants have uplifted communities by fostering healthier societies which complement the natural environment. Without resources (referring to electricity, sanitation, potable water, food), people destroy the environment, damaging ecological resources.

Poverty alleviation projects in the form of meat distribution during the festival of Eid-ul-Adha, the sale of animal skins, soup kitchens and the provision of blankets in winter to the poor indirectly place less strain on the environment.

Publications, notices on mosque boards and sermons at mosques further the mission statement of the JUKZN. An example of efforts made to protect the environment and an effort to create a healthier society can be identified in the various **anti-smoking campaigns** the JUKZN has undertaken through its publications, mosque board posters and sermons. The issue of **limited water resources** can be observed at every mosque in Kwazulu Natal where it is clearly evident that water is not to be abused during ablution.

The JUKZN has issued special stickers to all mosques, eg, “*Water is a gift from Allah, Do not waste this precious resource!*”

The JUKZN has also (through donations procured from private individuals) encouraged mosques to install boreholes as a water saving device. The JUKZN has also been responsible for the installation of boreholes in some rural areas in Kwazulu Natal.

Sermons which are co-ordinated by the JUKZN throughout its constituent mosques cover the following topics:

- Discouraging pollution
- Istinja^{xlii} (Personal environment)
- Sanctity of plant life (plants themselves engage in Ibadah^{xliii})
- Droughts (withholding of rain by Allah when Zakaat is not paid)
- Drugs and substance abuse

Mufti Zubair was concerned about the fact that his Council needs to speak more directly on the issues pertaining to the environment.

He was concerned about the general litter at Muslim schools indicating that this was a result of a lack of awareness. Parents and educators need to conscientise their charges about **re-cycling**. The Jamiat needs to follow the examples of other communities who are physically seen over weekends sorting out garbage into plastic, bottles, paper for re-cycling purposes. The Muslim community of Kwazulu Natal needs to be more aware of the benefits of re-cycling.

How the JUKZN plays a pivotal role in **Environmental Education**:

- ❖ Emphasis on Islamically-driven principles in Madrassah^{xliv} syllabi
- ❖ Hygiene is promoted (wudū`, ghusl)
- ❖ Emphasis on washing body parts
- ❖ Washing hands before and after eating (*Tahārah*- cleanliness)

^{xlii} Cleaning oneself after visiting the toilet

^{xliii} Plants even pray and prostrate to the Almighty

^{xliv} Means school.

- ❖ Washing hands after visiting the toilet
- ❖ Bodily hygiene
- ❖ Cleaning of pubic hair and paring of nails

The major mosques in Kwazulu Natal where the JUKZN confirms that talks on elements of Environmental Education take place in the province of Kwazulu Natal are:

Durban: West Street, Grey Street, Mallinson Road

Stanger : Jaame Mosque (Kwa Dukuza)

Pietermaritzburg: Mountain Rise Mosque

Port Shepstone: Jumuah Mosque

3.2.1.1 Newspapers and radio stations

The main newspapers found in Kwazulu Natal are :

- Al-Ummah: by the Al Ansaar Foundation
- Al Jamiat: by the JUKZN has a circulation of 15 000 copies.
- Al Haadi: by Isipingo Beach Darul Uloom

The newspapers do not focus on environmental issues but aspects of droughts and personal environment are highlighted. On an average, the above newspapers have a 10% leaning towards Environmental issues. There is an urgent need for a section which focuses on the environment.

The main radio station only airs programmes during the Hajj and Ramadaan months. Regrettably, there is no special programme on the environment.

3.2.1.2 The JUKZN and the WSSD

Mufti Zubair Bhayat contributed to the World Summit on Sustainable Development (WSSD) held in Johannesburg in the form of a publication. He participated in the Conference when he was interviewed by Shaakirah Jeebhai on Channel Islam, a satellite

radio station broadcasting from Lenasia, Gauteng Province. He spoke on aspects related to Environmental Education and also delivered a Jumuah talk at the WSSD.

3.2.1.3 The JUKZN and the Environment

In conclusion, there was still room for the JUKZN to develop the area of **environmental education**. The JUKZN was ecstatic about the research area and reiterated that educational awareness on **environmental issues** is crucial for social transformation and that the topic of the environment is linked to the Quran.

The JUKZN advanced the following:

- By discouraging wasteful consumerism and extravagant spending (*Israf*), the over utilisation of resources will be curtailed. The JUKZN can play a pivotal role in propagating simplicity. The Quran states

” Eat, drink but do not be wasteful.”

Wasteful consumerism exacerbates pollution and environmental despoliation.

- There is too much of food wastage especially at weddings. Wastefulness (*Israf*) is a cardinal sin in Islam and is a punishable offence. Instead, Islam encourages the feeding of birds, insects and animals with crumbs.

Mufti Zubair pointed to our proud Islamic history in the following areas:

- In Turkey, a building was left as “*waqf*^{xiv}” to feed birds
- Islam has for centuries laid importance on the burial of religious material. In this regard, there is great respect for paper. Muslims are encouraged to bury and not to burn any Quranic verses. Burning pollutes the atmosphere. The

^{xiv} *Waqf* means a *trust* established for a specific purpose.

practice of the great scholars of Islam was to bury religious material. This is a form of re-cycling.

- Muslims are buried and not cremated – body returned to its original natural organic state (bio-degradable humus)
- Islam encourages the burial of hair and nails pared including aborted foetus/placenta. These are returned to the earth in its bio-degradable, organic state.

3.2.2 *Muslim Judicial Council (MJC) - Qualitative Interview With Moulana Ihsaan Hendricks*

Moulana Hendricks is the Deputy President of the Muslim Judicial Council (MJC), by far the biggest of all the three council of theologians. The largest percentage of the Muslim population and historically, the oldest are found in the Western Cape.

The major mosques made reference to in the interview fall into two categories:

- **Athlone:** Masjid-al-Quds (Gatesville) and Habibiya Soofie
- **MJC Headquarters:** Masjidus Salaam, Essence Road Mosque
- The bulk of the Muslim community are in Mitchell's Plain, servicing approximately 700 000 Muslims via the Westridge and Lentegee mosques.

On the question of mosques delivering environmental topics, Moulana Hendricks reiterated that whilst this was a very important topic and issue, this was not regularly done. He conceded that Imams possibly touch on the topic of the environment unknowingly and only incidentally.

Moulana Ismail Karan, the Imaam at Al-Azhar mosque in District Six is qualified as a school teacher and also holds a degree in Environmental Studies. His area of specialization is on **Environmental Education**. In 2003, Moulana Karan undertook an excursion with a group of students to Malaysia. His wife, who is an Educare provider always takes great pride in celebrating Arbor Day.

Moulana Hendricks conceded that immediately, one comes to the realization that this is a greatly neglected field in the Muslim community.

3.2.2.1 The MJC's involvement in the Environment

Approximately 6 years ago the MJC invested in a smallholding in the Western Cape's Southern suburbs. The smallholding is 8 acres in extent. This farm area was turned into a drug rehabilitation centre. Some of the drug counsellors were sent for training to Indonesia and Malaysia.. This smallholding is called the **Phillipi area**. This agricultural area was bought by Muslims about 15 years ago and approximately one year ago the MJC declared this as a **poverty alleviation project**.

The MJC fostered a feeling of hope amongst the local inhabitants in Phillipi as this contributed towards poverty alleviation. From Moulana Hendrick's observations some of these farms were bought by farmers who have expertise but did not cultivate this area. This area is fertile and there appears to be emerging farmers in the area. In late August 2004, the South African Government provided funding to the area to the tune of R600 000. The area will be assisted through agricultural reform extension programmes offered by the University of Stellenbosch's Agricultural Research Department.

The move in buying the smallholding paid off dividends as this initiative resulted in the Western Cape Government releasing R22 million for a fresh fruit project in its **Vision 2005 and beyond Project**. The MJC qualifies as a Historically Disadvantaged Individual (HDI) status and consequently bought a 30% share in the operating market of this venture.

3.2.2.2 Newspapers and radio stations

The two newspapers, *Al Burhaan* and *Al Dawah* do not dedicate a column to environmental issues. This area needs to be addressed and strengthened.

The main radio station in the Cape is the **Voice of the Cape/Radio 786**. Not enough air time is devoted to environmental issues.

3.2.2.3 The MJC and its stance on the Environment

According to Moulana Hendricks, the Quran is strong on environmental issues. The Muslim community, at large has neglected this subject area. The Quran expands in “*abasa wa tawallā*” “**Let man look at the food that he consumes.**” This refers to the agricultural process and pertains to water, rain which Allah has provided as a benefit to you and your cattle. Environmental issues are paramount.

At least 33 places in the Quran refer to mountains. This illustrates how important environmental issues are.

The MJC endorses its regret at some Muslim countries like Egypt who have disregard for basic hygienic standards. The airport toilets bear testimony to this deterioration in hygienic standards.

The famous Hadith of the Prophet Muhammad (PBUH) states:

“Cleanliness is half of Imān”^{xvii}

Tahārah is vital to every Muslim.

The MJC is concerned about the following areas related to the **environment**.

- There is a need for mosques to disseminate more information on environmental issues
- There is a greater need for the MJC to conscientise the Muslim community of the Western Cape through environmental awareness programmes.

^{xvii} Cited in Sahih Muslim, Hadith no 544, Darussalam Publishers, Riyadh

3.2.3 *The Jamiat-E-Ulema Transvaal (JUT) - Interview With Moulana Ebrahim Bham*

Moulana Ebrahim Bham is an Executive member of the JUT. He holds the posts of Assistant Secretary, Media Liaison Officer and Editor of the JUT's in-house publication called *Al-Rasheed*. He has been with the JUT for 15 years.

Moulana Ebrahim Bham lectures on a wide range of topics. As media liaison officer, he is responsible for moulding Muslim opinion in South Africa. He has produced an audio cassette *Environmental Issues: An Islamic Perspective* (In Transcript form in Annexure B). This cassette marked the opening of the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002. Moulana represented the JUT at the WSSD at NASREC (Johannesburg) at the WSSD and his focus was on highlighting the utilization of natural resources in Palestine. He drew the attention of the world to the atrocities committed by the Israeli government on farmers in Palestine when the Israeli army destroyed thousand-year old olive trees and intentionally contaminated drinking water supplies as a form of their oppression of the Palestine nation.

3.2.3.1 The main mosque in Johannesburg

Undoubtedly, the Newtown mosque is the main centre of the JUT's lectures in the Gauteng region. The capacity at any Friday sermon is around 2000 people.

The JUT attempts to synchronise its lectures and co-ordinates common topics in surrounding mosques. Some of the topics are: *Racism* (this coincided with the Racism Conference in 2001 at the ICC, Durban), *Sustainable Development*, *Divorce (Abuse)*, *The Past and the Future of Muslims in South Africa: Responsibilities of Muslims in a post-apartheid South Africa*.

3.2.3.2 The JUT's views on Islam and the Environment

The JUT concurs that insufficient attention is dedicated to the topic **Islam and the Environment** despite the fact that Islam has provided clear guidelines on the topic, it finds itself woven into topics in the general tapestry of things but is very seldom tackled on its own. What the Imams in the mosques affiliated to the JUT do discuss are issues on sustainable development.

3.2.3.3 The JUT's publication "*Al-Rasheed*"

The following issues were discussed:

- Sustainable development – during the WSSD circa 2002
- Water – a scarce resource
- Natural Resources
- Smoking with particular reference to the *Hookah pipe*
- Pollution

Moulana Bham did point out to the fact that a dedicated column does not exist on the topic **Islam and the Environment**.

3.2.3.4 The JUT's Radio Station: "*Radio Islam*"

The JUT's official radio station, "*Radio Islam*" beams to the Muslim population of Johannesburg (and suburbs), Lenasia, Benoni and Soweto. The radio station does not have a dedicated programme on **Islam and the Environment**.

Moulana has a weekly programme on Thursdays where he deals with a host of issues.

3.2.3.5 Projects Undertaken By The Jut On Sustainable Development

Water Projects (provision of boreholes)

- Mpumalanga – 6 wells using schools as the focal point.
- Limpopo Province- 3 wells

The JUT has not been involved in any agricultural projects.

The JUT was involved during the recent droughts in Malawi. The JUT donated agricultural products.

3.2.3.6 Moulana Bham's audio cassette: Environmental issues: An Islamic Perspective

The transcript of this audio cassette is available in Annexure B.

3.2.3.7 The JUTs Concluding Remarks

- As a minority population of South Africa, the contributions of the Muslim community to the various upliftment projects on sustainable development are significantly high *pro rata*.
- Allah created everything found on this earth as a *trust*.
- There must be a *Mizān* (balance) between our usage and the availability of natural resources. We have lost this balance.
- We must look at the environment as a *trust (Amānah)*. We cannot do with the environment as we please. We have to use the environment judiciously.
- We must have other considerations with regards to the use of resources other than having it.
- We must not be extravagant. Extravagance leads to wastage and pollution.
- Poor people have a right over our wealth. It is incumbent upon the rich to share with the poor so that there is *equity*.
- Whatever the resources there are- the use of these resources is subject to ethical considerations.
- We need to be wary of *Globalisation* and its effects.

3.2.4 *The Sunni Jamiat-e-Ulema Kwazulu Natal*

Moulana Abbas Khan, the Chairman of the Sunni Jamiat-e-Ulema was interviewed concerning his association's involvement in environmental issues. He served the Sunni Jamiat for over twenty five years. As Imam (Head) in the Croftdene Mosque in Unit 5, Chatsworth, South Durban he often delivered talks on environmental issues. He also reiterated the famous Hadith that "*Cleanliness in half the faith*". He qualified that Muslims are conscious of being clean due to the fact that they must make ablution five times a day.

Moulana Abbas Khan also mentioned that whilst he was on a trip to Karachi, Pakistan in April 2004, he delivered a lecture at the Islamic Centre in North Naajimabad on the issue of *pollution*. His association constantly monitors the levels of cleanliness at the mosques which fall under the auspices of the Sunni Jamiat-e-Ulema.

Upon closer inspection of the various mosques, it is pleasing to note that much attention is placed on the use of water. Mosque-goers are urged not to waste water via posters which are clearly exhibited on notice boards and near water points.

The general publications of the above organisation do not have any articles on environmental issues.

3.2.5 *The Soofie Darbaar Institute*^{xlvii}

The Imam of the Riverside Soofie institute in Durban, Moulana Goolam Muhammad Soofie was interviewed. He categorised the importance of the physical environment into the categories of *khilāfah* and *taskhīr* (refer to Abu Sway in Chapter Two) and expressed that Allah will ask humans to account for their living period on this earth.

^{xlvii} This religious body was started by the late Hazrat Soofie Saheb, who is claimed to be the 36th descendant of the Caliph Abu Bakr. The Soofie passed away in 1911. He belongs to the Chisthi order of Sufis.

He also explained that Allah has given humans authority to use the physical environment judiciously.

He reiterated that the word *Sufi* is derived from *Safa* which linguistically refers to the state of *cleanliness* (spiritually and externally). He therefore qualified that the environment is valuable to Sufis. The spiritual head of the Chisthi order of Sufis, Khwaja Moinudeen Chisthi had called out in his last sermon that humans were to:

“Love everything and hate nothing”

Moulana expressed that the topic of Environmental Education was a neglected area of concern. He did not include topics related to the environment in his lectures or in the quarterly Soofie Saheb newsdletter.

However, he pointed out that the late Soofie Saheb loved animals and his favourite animals were cats and horses.

3.3 CONCLUDING REMARKS: CONTRIBUTIONS MADE BY THE VARIOUS INSTITUTIONS ON ENVIRONMENTAL ISSUES

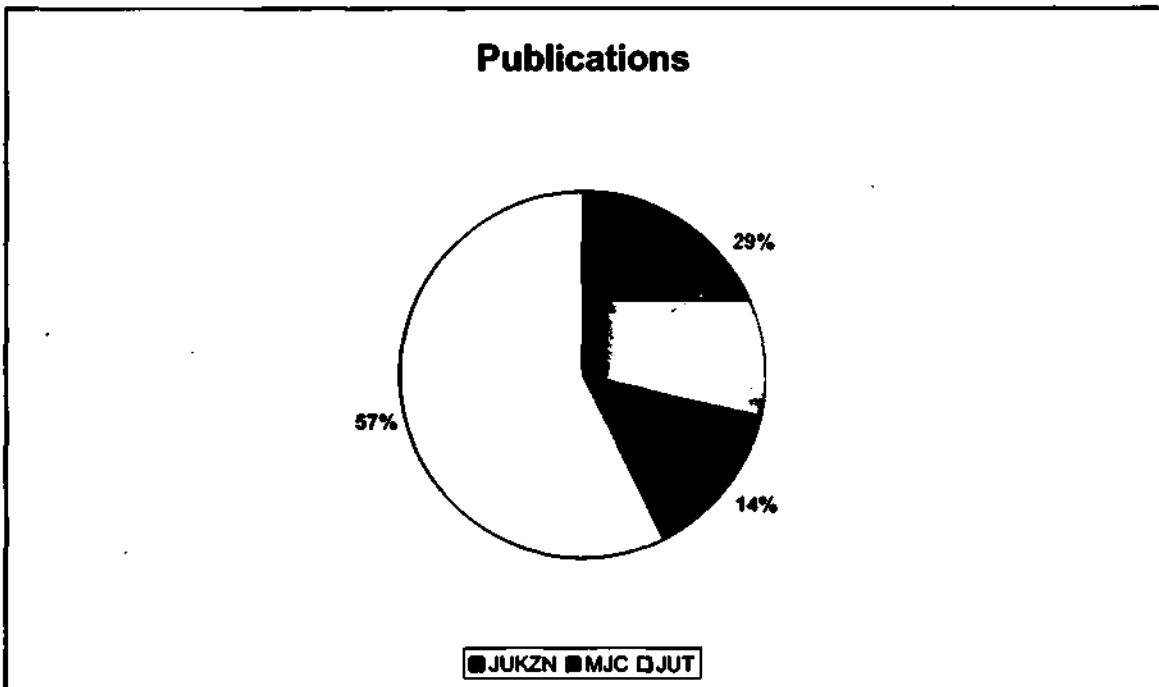


Figure 5: Environmental coverage in publications of theological bodies

Figure 5 clearly points out that the JUT's publication *Al-Rasheed* carries more articles issues relating to environmental issues than the other institutions. The Sunni Jamiat and Soofie Darbaar institute are not included in Figure 5 as they did not cover environmental issues in their publications.

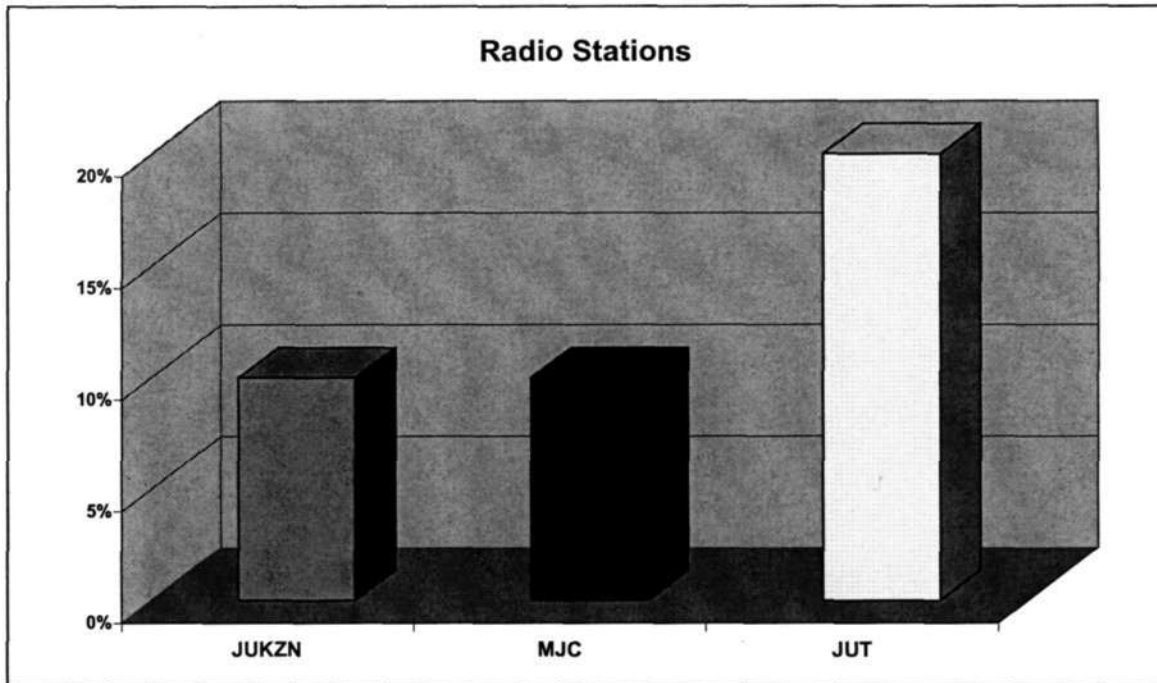


Figure 6: Environmental coverage by Muslim Radio Stations

Figure 6 clearly points out that the JUT once again has made more significant strides in reaching out to its constituent population through Moulana Bham’s weekly Thursday programme. It must be noted here that the JUKZN does not have its own radio station and as such has very little control over the programs which are aired over the seasonal radio station in Kwazulu Natal called *Al-Ansaar Radio*.

However, Mufti Zubair Bayat is interviewed often on Channel Islam and Radio Al-Ansaar and his talks touch on environmental issues.

The Sunni Jamiat and Soofie Darbaar Institute do not have their own radio stations and are therefore not represented in Figure 6.

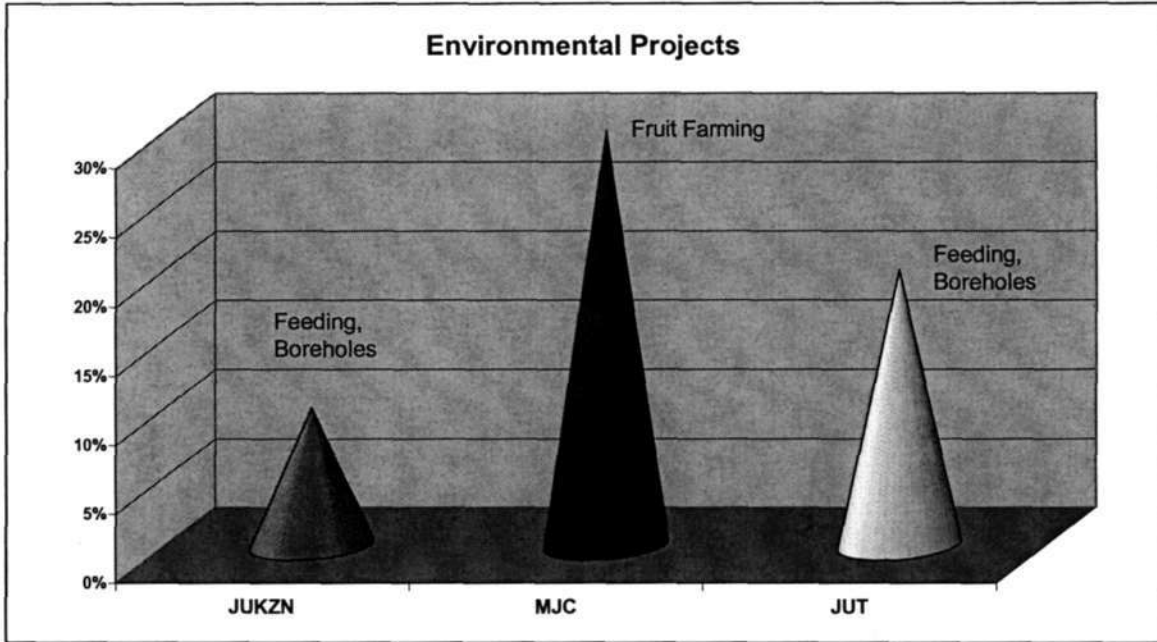


Figure 7: Environmental projects undertaken by Islamic Institutions

Figure 7 illustrates that a real tangible environmental project that has taken off in South Africa is the one in the Phillippi Region in the Western Cape. This fruit farming project holds great promise for the MJC who is the leader in this field.

It is quite evident, however that all the major institutions in South Africa, who represent more than one million Muslims:

- ✓ Endorse the value of the topic *Islam and the Environment*
- ✓ Agree that this area needs to be emphasized greater
- ✓ That Allah has ordered us to protect the environment
- ✓ That Allah has given us the environment on *trust*
- ✓ Are committed to fostering Environmental Education projects.
- ✓ Agree that more lectures at their mosques need to be environment-centred.
- ✓ Agree that their provincial radio stations need to include topics related to the care of the environment in their programming schedule.
- ✓ Need to have a dedicated **environmental column** in their publications.

3.4 QUANTITATIVE EMPIRICAL RESEARCH FINDINGS

Preamble

The background of the validity of the questionnaire as “exploratory” tool/device was discussed under the section “Research Methodology” in Chapter One. It will suffice here to introduce the reader to the variables and parameters found within the questionnaire.

The questionnaire was generated and administered in English for South African schools and in Arabic for the four international control schools.

The questionnaire also allowed for **open-ended responses** in the form of comments. These comments will also be highlighted during the course of the analysis.

The questionnaire was divided into the following convenient sub-sections:

3.4.1 *General Section*

In this section research questions are broad and general, relating to the school’s general functioning. Questions were asked relating to Environmental Education (EE):

- Whether EE is offered in the various phases^{xlviii}?
- Was World Environment Day (WED) observed^{xlix}
- EE Activities engaged in during WED
- Arbor Day^l.

^{xlviii} In South Africa, **Outcomes Based Education (OBE)** is the pedagogy offered. Schools follow phases eg. The Junior Primary section is called the **Foundation Phase (caters for ages 5-8: Grades 0 to 3 or from pre- school to Standard 1)**, the Senior primary section is called the **Intermediate Phase (Grades 4- 6/Standard 2-4: ages 9-11)**, the Junior Secondary/High school phase is called the **Senior Phase (Grades 7- 9/Standards 5-7: ages 12 to 14)** and the Senior Secondary /High school phase is called the **Further Education and Training /FET phase: Grades 10-12/ Standard 8-10: age 15-17)**

^{xlix} Each year, South African schools are encouraged to observe World Environment Day on the 5 June. Each year focuses on a new theme eg Water, Aquatic Ecosystems and the like

- Activities during Arbor Day.
- General aspects of the school (notice boards, posters, clubs, newsletters, Establishing vegetable gardens, greening projects, library integration.
- Assembly talks
- Subscription to journals/magazines
- EE competitions

3.4.2 *Classroom-specific questions*

- Do classrooms have plants?
- Do classrooms have an environmental mission statement?
- Do classrooms have posters on the environment?

3.4.3 *Learning Areaⁱⁱ specific questions*

- EE as part of the curriculum
- Environmental Officer
- LA topics on EE
- Islamisation of LA's

3.4.4 *Staff-Specific questions*

- Internal Staff workshops
- External Staff development workshops
- Association with NGO's

ⁱ Arbor Day is traditionally a day when tree planting takes place. The South African National Parks and Gardens Society nominates a tree which is to be conserved and planted. Normally, trees which are in danger of becoming extinct and which are endangered are planted.

ⁱⁱ OBE does not use subject classification but learning area classifications.

3.4.5 General Comments

In this section contributors had the latitude to make valuable comments relating to the establishing of EE and the topic of introducing the topic of the **environment** in their teaching.

After results were populated into the appropriate spreadsheet, graphs were generated which visually make interesting comparative reading. One can compare/observe:

- Intra-Islamic school variations of EE
- EE in Public schools
- EE in an international Muslim setting

The results in the graphs were analysed in prose form.

3.5 COLLATION OF DATA: ANALYSIS OF PICTORIAL GRAPHS

In this section we take a look at the analysis of the quantitative aspects of the research . The first four graphs (A, B, C and D) deal with the question of whether Environmental Education has been catered for in the various school phases:

- **Foundation phase** (Grade 0-3)
- **Intermediate phase** (Grade 4-6)
- **Senior Phase** (Grade 7-9)
- **Further Education and Training Phase** (Grade 10-12)

The results, which were yielded from the study, revealed the following data for Islamic schools, the secular schools and the International schools surveyed. The composite table drawn below shows the percentage distribution of the question of whether Environmental Education has been catered for in the various phases:

Table 3: Environmental Education in South African Schools

PHASE	SOUTH AFRICAN ISLAMIC SCHOOLS		CONTROL			
	YES	NO	SECULAR SCHOOLS		INTERNATIONAL SCHOOLS	
	YES	NO	YES	NO	YES	NO
FOUNDATION	65	35	67	33	67	33
INTERMEDIATE	71	29	67	33	67	33
SENIOR	71	29	100	-	33	67
FET	53	47	33	67	33	67
SCHOOL AVERAGE	65	35	-	-	-	-

The table above indicates the inclusion of Environmental Education in the various phases. The control school results are not valid because of the small sample taken. The control schools do not form part of the research population proper but were used to illustrate what are the goings-on at these schools in respect of Environmental Education. It will suffice here just to look at the collated results of South African Islamic schools. On a whole, it must be noted that Environmental Education is catered for in **65% of the various educational phases**. The intermediate and senior phases show that Environmental Education is catered for in **71% of the Intermediate and Senior Phases**. This can be attributed to the fact that cluster cell^{lii} inter-school activity and Departmental directives in respect to EE is most active in these phases.

The conclusion one can arrive at by looking at whether Environmental Education is catered for in the various phases in South African Islamic schools is that:

- There is a genuine effort, especially in Grades 0 to 9 to cater for Environmental Education in the school’s curriculum. It is common knowledge that the theme of the **environment** is prescribed by the Revised National Curriculum Statement as a programme organiser^{liii}. Environmental Education is **well catered** for in these phases.

^{lii} With Outcomes Based Education all schools (public and state subsidised private Islamic schools) must belong to a networking cluster cell wherein educators: (1) meet once a month and (2) where all work and assessments are moderated for standards.

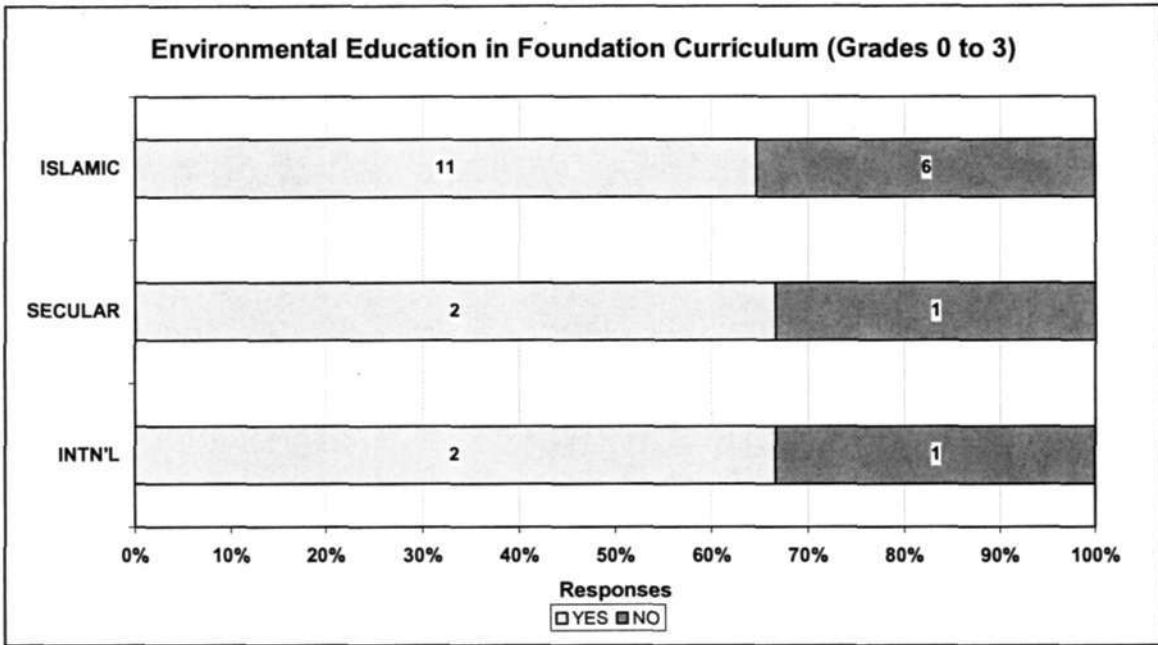
^{liii} The themes : **transport, health, environment** are used as points of departure or sections around which lessons should revolve. Used as themes.

- Environmental Education is satisfactorily catered for in the Further Education and Training phase.
- There are clear indications that EE is done on a formal basis.

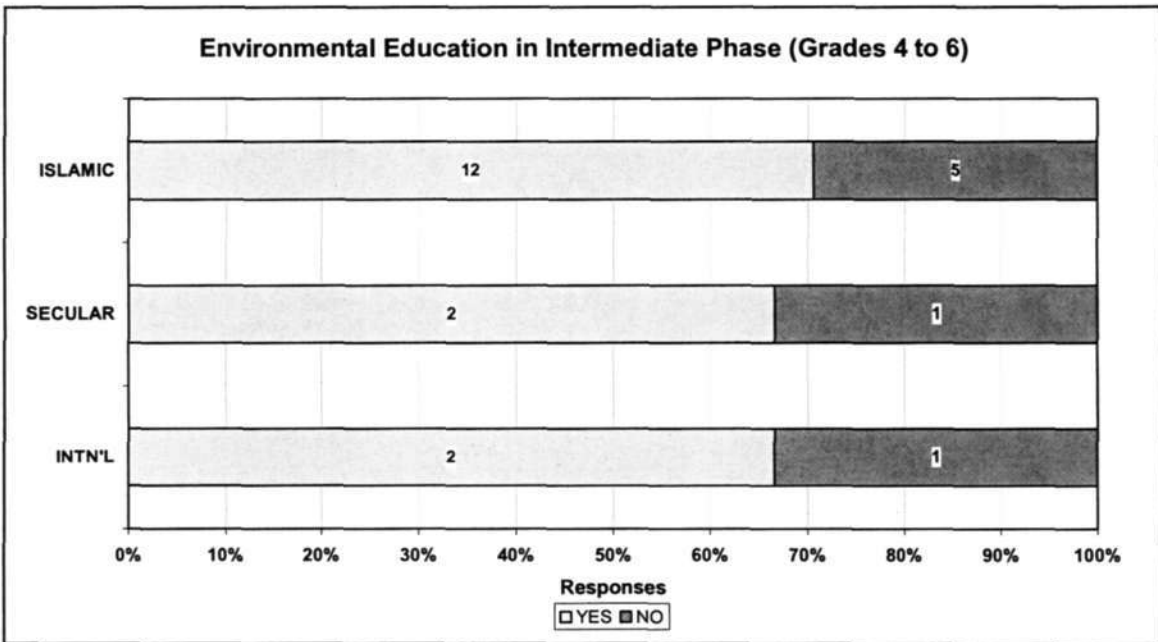
Here are some of the general comments regarding the type of integration which occurs in some Islamic schools:

- Each learner has a SAPPI workbook^{liv} in Environmental Education in the Intermediate and Senior Phases.
- EE is integrated into the Human and Social Sciences, Life Orientation and Natural Sciences learning areas
- Environmental Education forms an integral part of the syllabus and content material in the various phases.
- One school has a general school project in which all learners participate. At the level of praxis, each class participates in a different EE theme eg. Fund raising and making recycle bins.
- EE is taught in many schools in tandem with the teachings of the Quran.
- In one school EE is integrated into the Natural Science and Biology learning area/subject.
- Some Islamic schools have not developed an FET phase as yet.

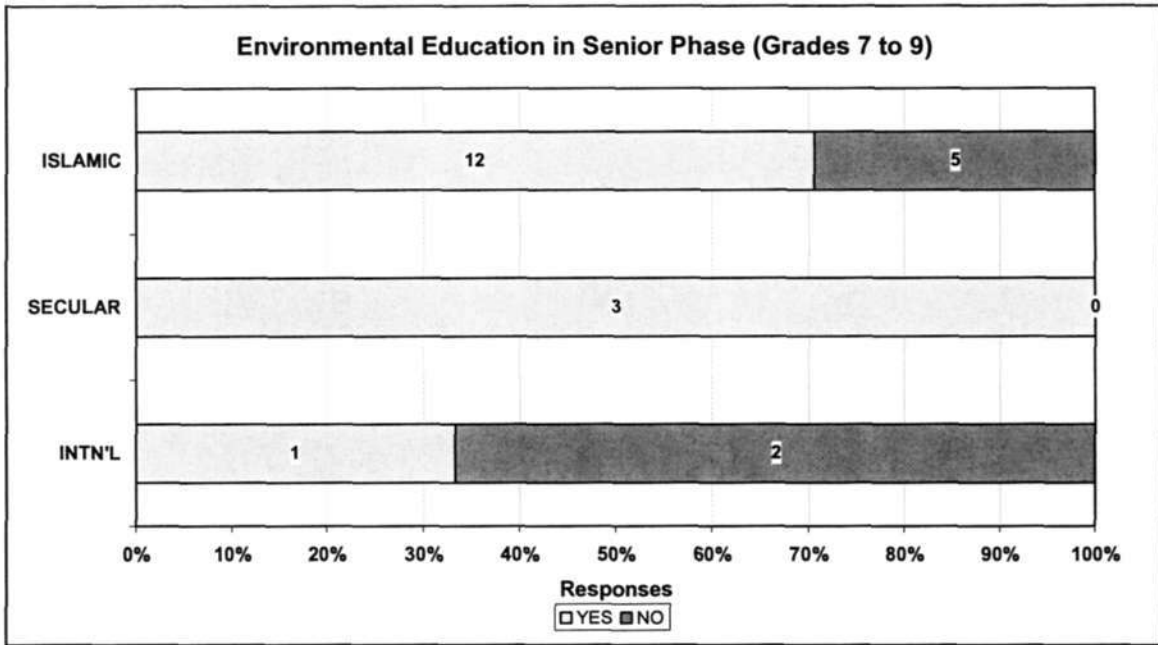
^{liv} SAPPI refers to South African Pulp and Paper Industry. SAPPI has contributed in a large way towards the development of EE in schools via such publications



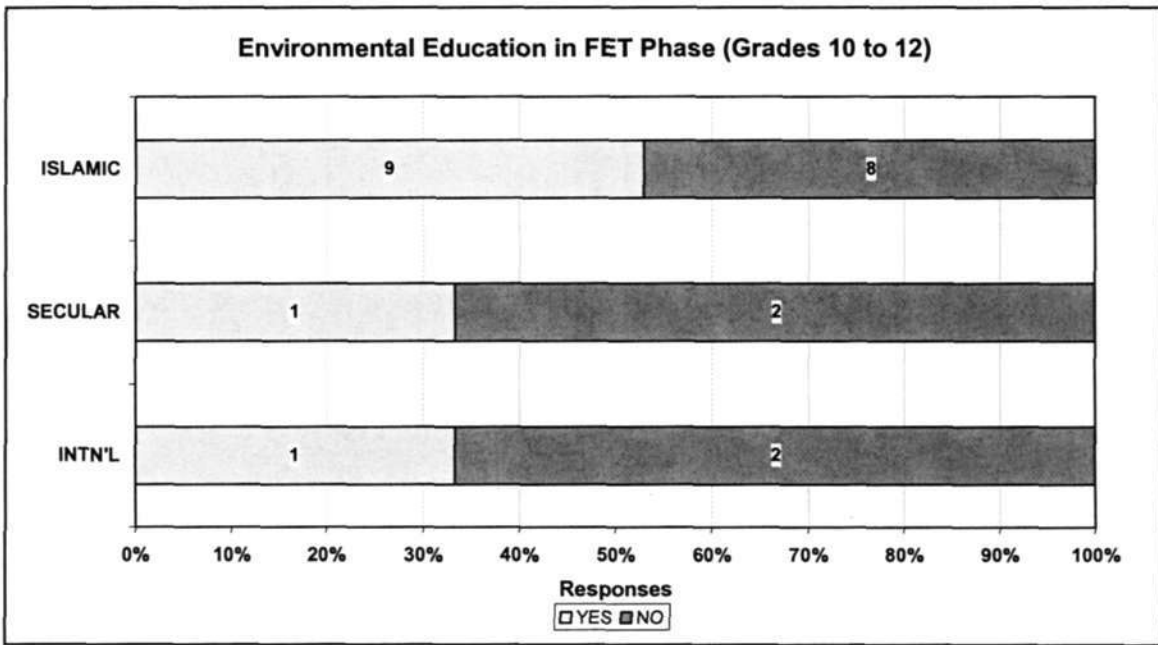
Graph A: EE In Foundation Curriculum



Graph B: EE In Intermediate Phase

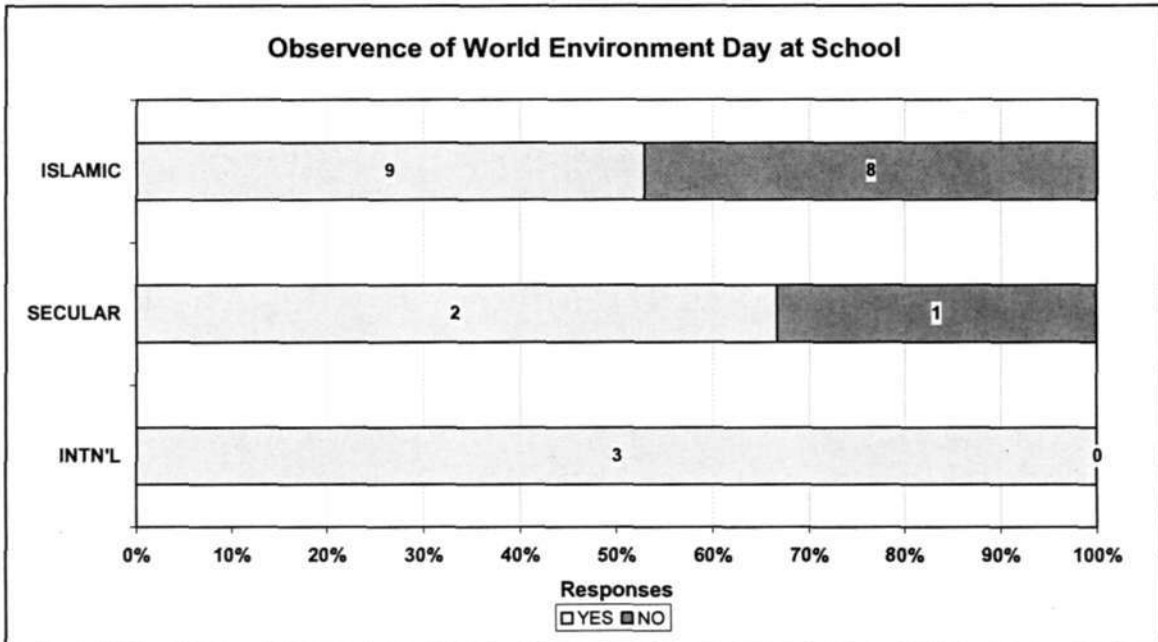


Graph C: EE in Senior Phase



Graph D: EE in FET Phase

OBSERVANCE OF WORLD ENVIRONMENT DAY AT SCHOOL (REFER TO GRAPH E)



Graph E: Observance of world environment day at school

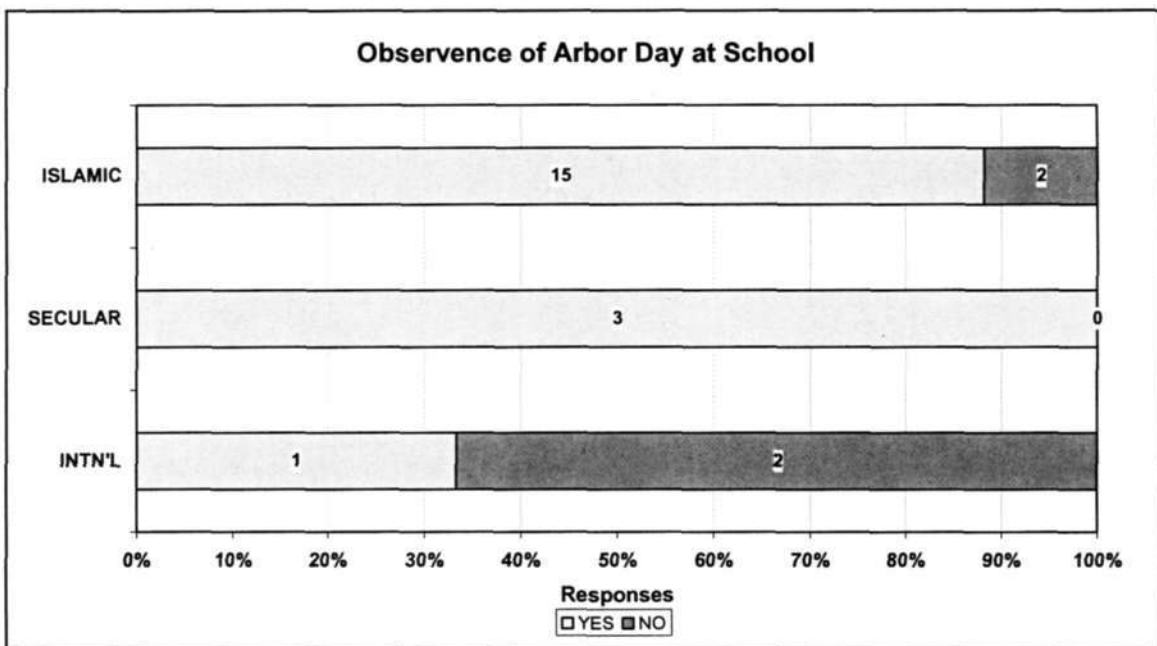
June 5 is annually declared **World Environment Day (WED)** in South Africa and the rest of the world. 53% of Islamic schools in South Africa observe World Environment Day. Nearly half of the Islamic schools sample indicated that they do not observe World Environment Day. World Environment day is not just about that one day. June 5 heralds the culmination of activities done prior to the day. Themes of “Save our Oceans”, “Our Plants: our Natural Heritage” and the like are some of previous themes.

These are some of the activities which the 53% of the Islamic schools who observe WED engage in during this week:

- Assembly talks and presentations by learners
- Posters highlighting environmental issues
- Treasure hunts
- Speech contests
- Poster competitions
- Cleanest classroom competition
- Decorating classrooms with articles and posters on the environment

- Planting trees, establishing vegetable patches: greening projects
- Art competitions
- Quiz contests
- One school commented that most of their WED activities were held in the Foundation Phase and this included: collages, art displays, speech topics, promotion of vegetable gardens, drama sketches by learners

OBSERVANCE OF ARBOR DAY AT SCHOOL (REFER TO GRAPH F)



Graph F: Observance of Arbor Day at school

Arbor Day is observed traditionally internationally especially in South Africa, the UK, Australia and the USA when a day (the first Friday) in September is set aside for tree planting. Schools normally celebrate the Friday as the culmination of a week's activities which generally revolve around trees. Each year, South Africans are encouraged to plant trees which are in danger of being extinct. Total South Africa (a petroleum company) even hands out seeds with directions to plant the nationally designated tree. In any given year one tree eg *Ficus Entericus* is designated as the tree for that year. South Africans are encouraged to plant the tree. Newspapers and *Total SA* carry information on the tree in the form of pamphlets which are distributed to the public when you drive in to fill petrol (gasoline).

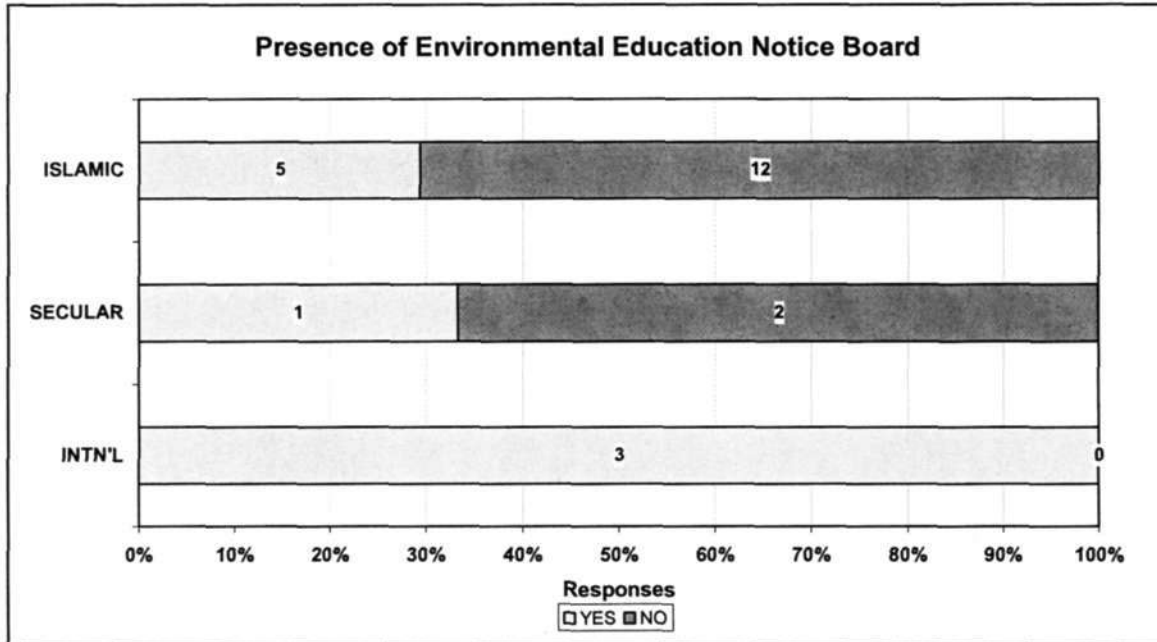
Graph F reveals the following interesting details about the involvement of Islamic schools in South Africa in Arbor Day activities:

- 88% of Islamic schools observe Arbor Day annually.

The activities during Arbor Week include:

- Visits to neighbouring botanical gardens and information centres
- Talks at assembly by botanists, learners, guests.
- Tree planting ceremonies
- Check the growth of already planted trees
- Poster competitions
- Speech contests
- Poetry recitals and competitions
- Theme of the week on **Trees** across the curriculum
- Calling the Mayor of the city/town to be the guest at your tree planting ceremony
- Art competitions
- Total involvement of educators: each educator in their lesson teaches an aspect on trees
- Drama: improvised plays
- Qiraat competitions on relevant verses of the Quran related to *trees*.
- Special assemblies wherein learners are informed about the value of trees.
- Fund raising projects to purchase trees and shrubs for the overall aesthetic improvement of the school
- Infusion of Quranic verses and Ahadith on ecology and conservation
- Getting parents and the business community to pledge trees.

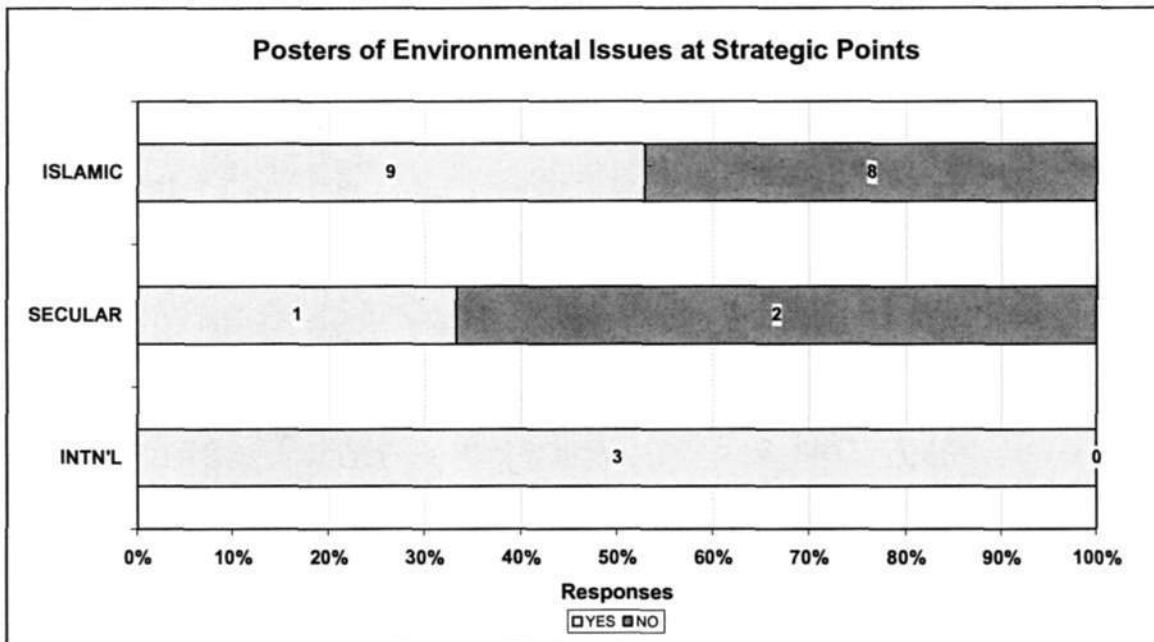
PRESENCE OF AN ENVIRONMENTAL EDUCATION NOTICE BOARD
(REFER TO GRAPH G)



Graph G: Presence of an environmental education notice board

29% of Islamic schools indicated they had a special Notice Board dedicated to Environmental issues. Most schools visited do have a general school notice board which is located at a vantage point. The sad aspect of this area is that:

- There is no World Map
- There is no Daily News column
- There are no Quranic verses
- Environmental issues are virtually non-existent.



Graph H: EE Posters at Strategic Points

53% of Islamic schools displayed relevant posters on Environmental issues at strategic points in their schools. These were vantage points at which learners could specifically read more about environmental issues.

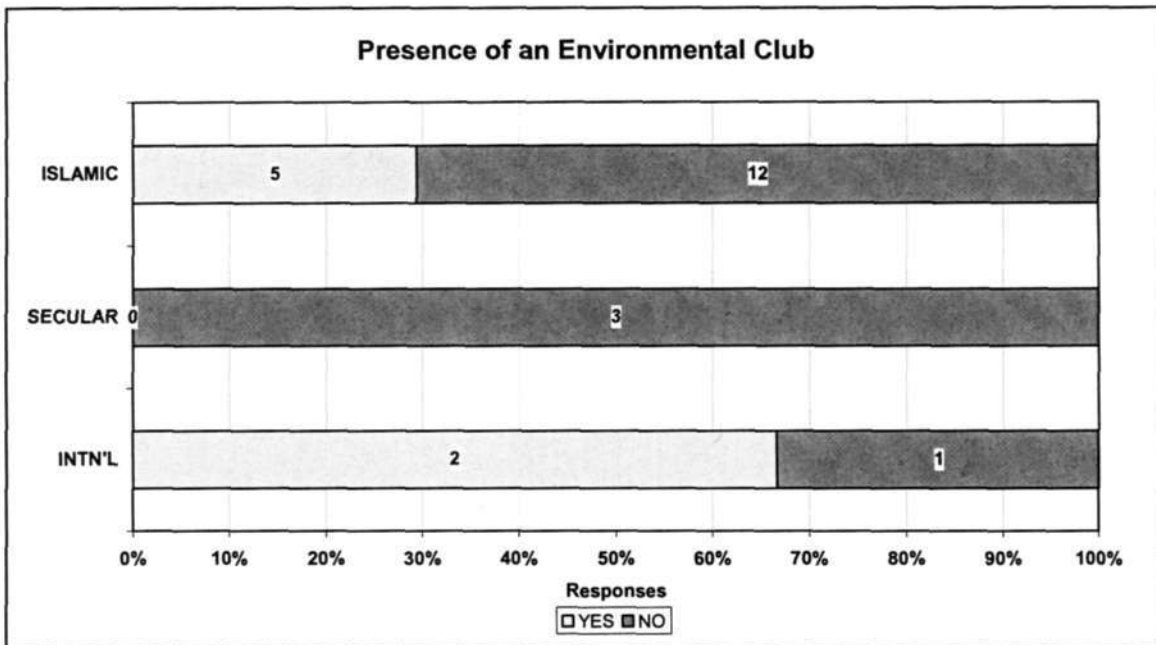
Many schools have a general notice board on which examination time-tables, departmental notices and other important information are pasted.

Nearly half of the Islamic school sample indicated that this is not the case. The school notice board is devoid of articles on **environmental issues**.

Common concerns in articles found in South African newspapers presently focus on the following environmental issues:

- The Iraq War – environmental destruction
- Nuclear war
- Green Peace: their campaigns
- Culling of seals
- Extinct animals
- Air Pollution
- Environmental Destruction
- Littering

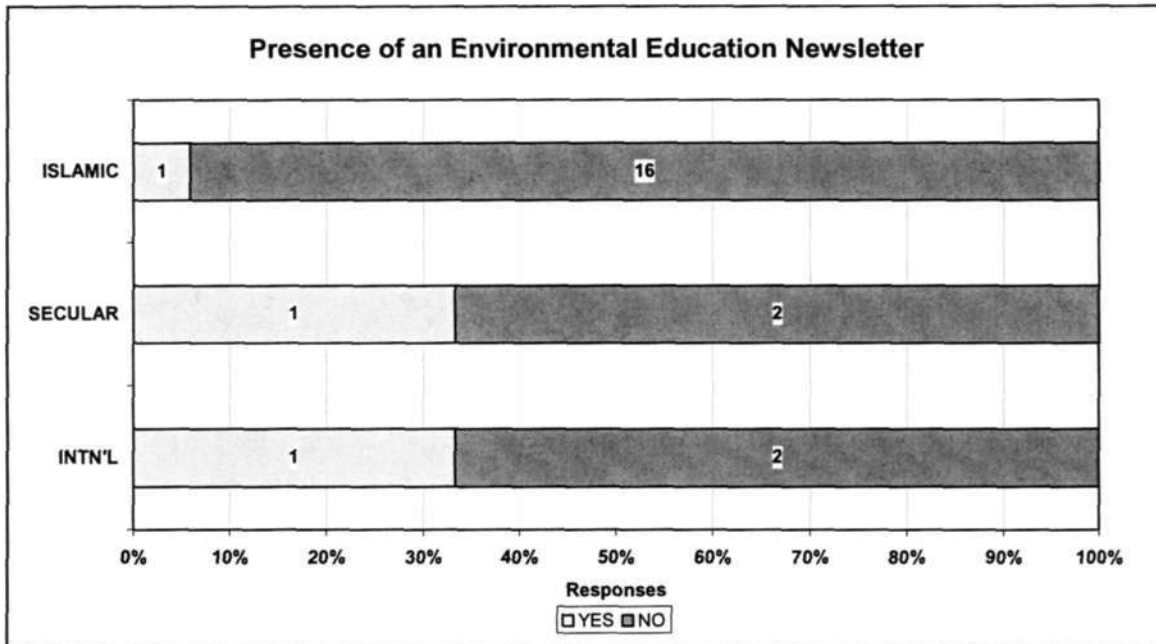
- Marine pollution
- Riverine ecosystems
- The move towards *suburbanisation*^{iv}



Graph I: Presence of an environmental Club

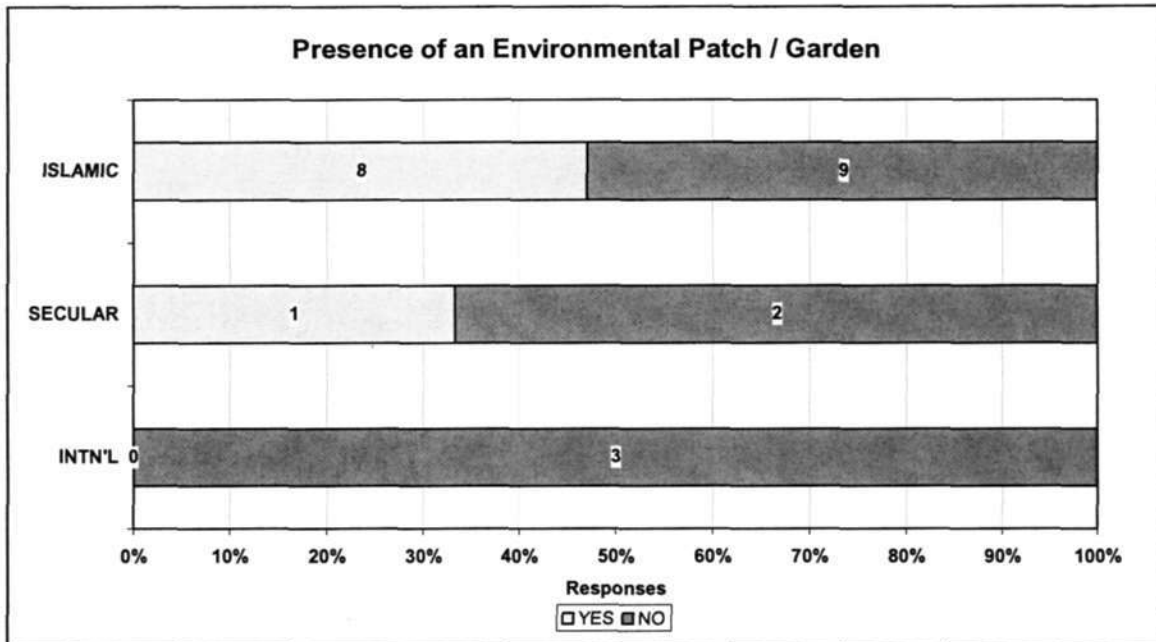
29% of Islamic schools have an environmental club. 71% of Islamic schools do not have an Environment Club. Environmental Clubs are responsible for driving the entire impetus of environmental issues. Learners are supervised by educators who have similar interests in hiking, ecology. Learners are taught how to conduct meetings (meeting minutes, procedures), prepare business proposals, make frugal budgets, write letters to guests, and plan for occasions. Unfortunately, this concept is only prominent in few of the historically well established Islamic schools. Whilst some schools do have Wildlife Clubs, the actual function of these clubs is lost or diluted because of improper supervision by educators who feel that they already have enough school work to complete so the running of clubs is a definite no-no area.

^{iv} There are moves currently in South Africa to get “frustrated” city dwellers to move to more tranquil, serene Eco-park style environments eg Simbithi in Ballito, Kwazulu Natal.



Graph J: Publication of an environmental education newsletter

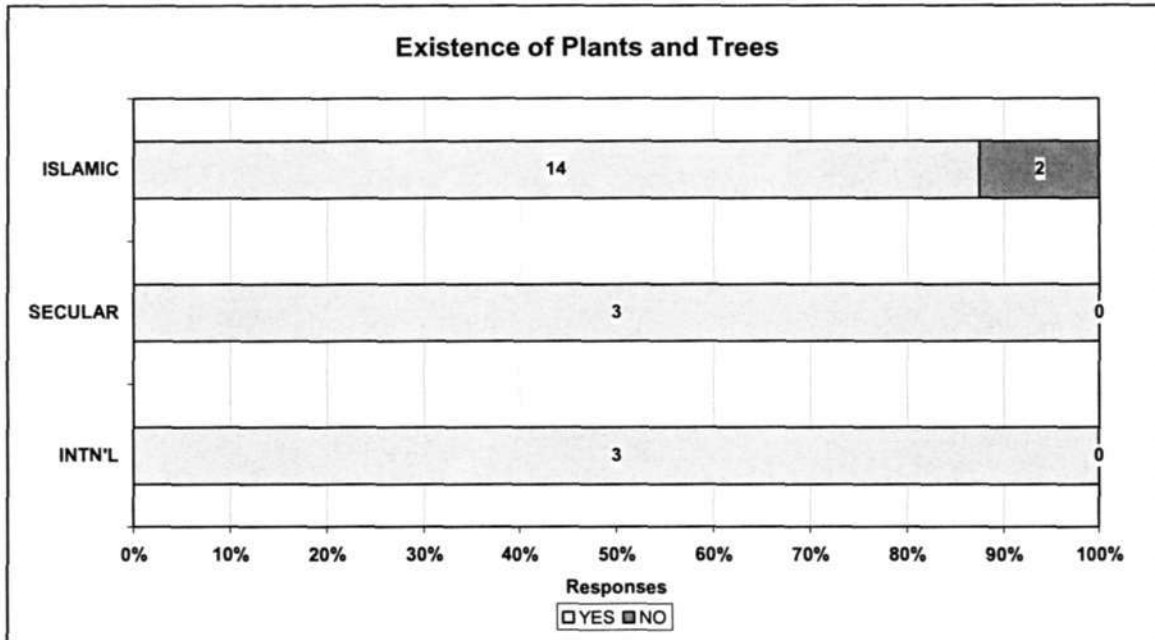
Only 1 school (6% of the sample size) published an environmental newsletter. Teaching learners skills of writing articles, using software operating systems like *Publisher*, setting publication targets, getting adverts, setting templates, developing negative and positives as well as colour separation techniques is lost if there is no such activity generated by Islamic schools. Unfortunately, if every *learner empowerment* activity is seen as extra work to the allocated workload of educators, we run the danger of not preparing our learners for the real world. Learner empowerment cannot occur without proper educators supervising these projects.



Graph K: Presence Of A Garden Patch

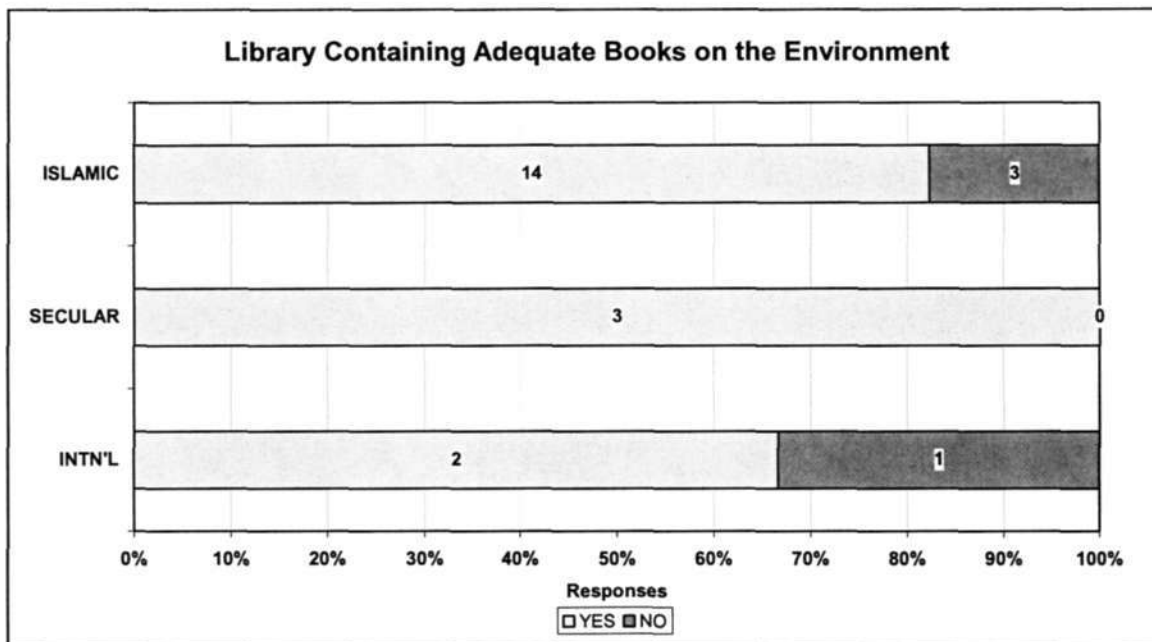
47% of Islamic schools have a garden patch. 53% of Islamic schools do not have an established garden patch. This is actually a very sad reflection in Islamic schools. If we start with those schools that have established garden patches, we find that these are left uncared for and neglected. These gardens are not economically sustainable and very few are in the category of proper market gardens. Most of the gardens are left in the care of the ground cleaning staff. Once again, Islamic schools are losing out on this golden opportunity to get their learners to learn at *first hand level* what *sustainable development* is all about. Planting a garden (refer to Chapter Four) is outcomes based. The thematic approach towards developing a *sustainable society*: begins here with learners assuming responsible roles, which are embodied in the entire project:

- Learning about organic versus genetically modified foods
- Mapping out a garden patch
- Soil analysis
- Actual gardening trends and plant requirements
- Observation techniques



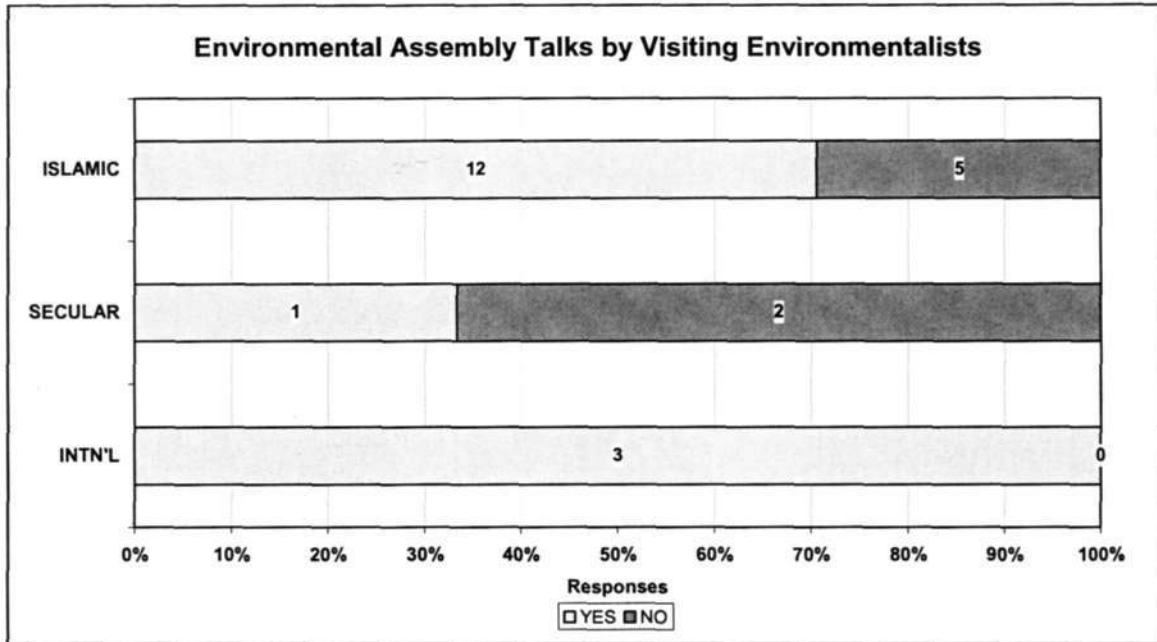
Graph L: Existence Of Plants And Trees (Foliage)

82% of Islamic schools have well established gardens and parks. This was probably the most interesting part of the research. The presence of trees and foliage is also coupled with the fact that quite a significant number of Islamic schools are attached to an in-house mosque. However, there is need for more learner education concerning these trees. When learners are asked to identify trees and foliage by names, they were unable to do so. This is largely the result of not infusing these trees into our teaching. More on the compilation of an environment audit appears in detail in Chapter Four.



Graph M: Library Containing Books On The Environment

82% of Islamic schools have well equipped libraries with adequate books on the subject of the environment.. The Library resource Centre is the nerve-centre of any educational institution. Whilst there are books on the environment, namely, *Whales, Sharks, Mountains, Tigers of India, Plant Species*, learners are not being exposed to these literature in the frequency required. Indeed, it is safe to say that the greatest challenge (this is a scope for another research) facing the Muslim Ummah at school level is the general lack of *reading* amongst our children, especially among male learners.

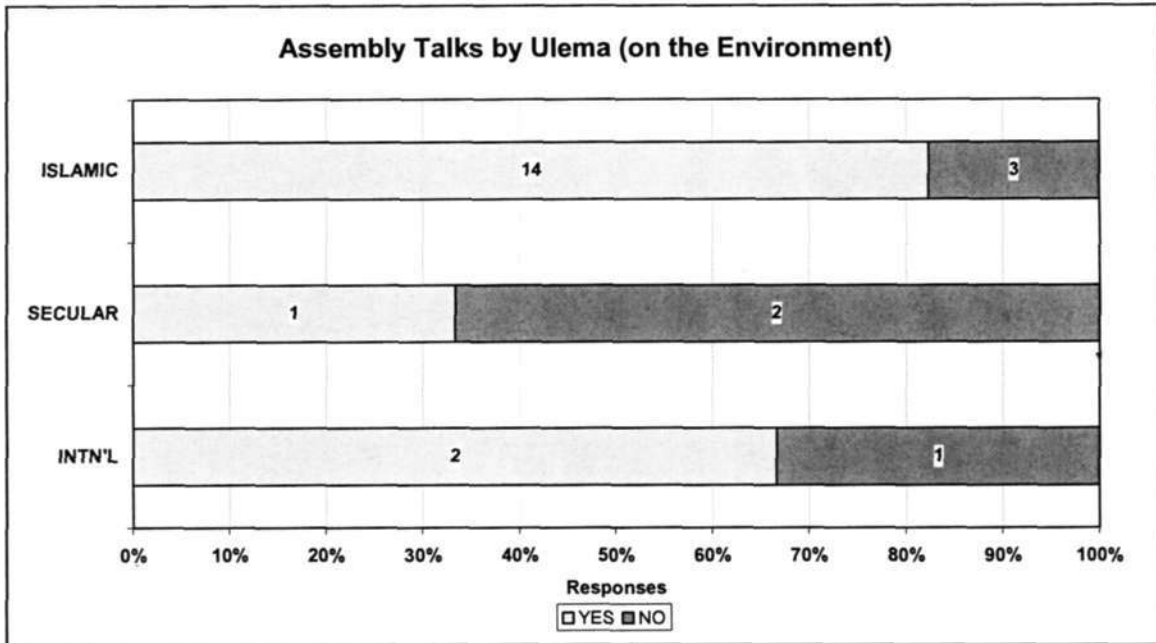


Graph N: Assembly Talks On The Environment By Visiting Environmentalists

71% of Islamic schools invited environmentalists to deliver talks on the environment.

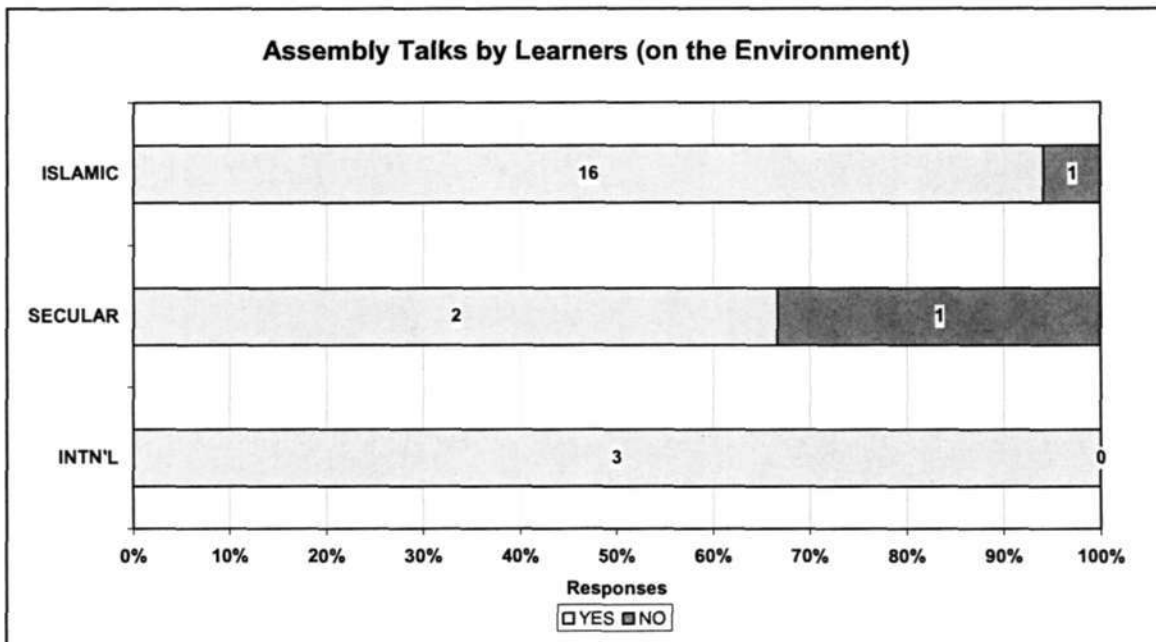
Graphs N, O and P refer to information which is disseminated to learners via visiting environmentalists, Ulema and fellow learners on environmental issues. It is promising to note that Islamic schools are taking the lead in this regard. Of importance to Islamic schools is that a day in the week should be dedicated to a special assembly at least for 30 minutes. This Assembly should become a genuine part of Life Orientation time. A formal assembly at which drug-counselling, environmental issues, career talks, talks on *Imaan and Yakeen*^{lvi} take place should be seen as a part of the *hidden curriculum*.

^{lvi} Religious spiritual talks on development of the person by getting closer to the Creator



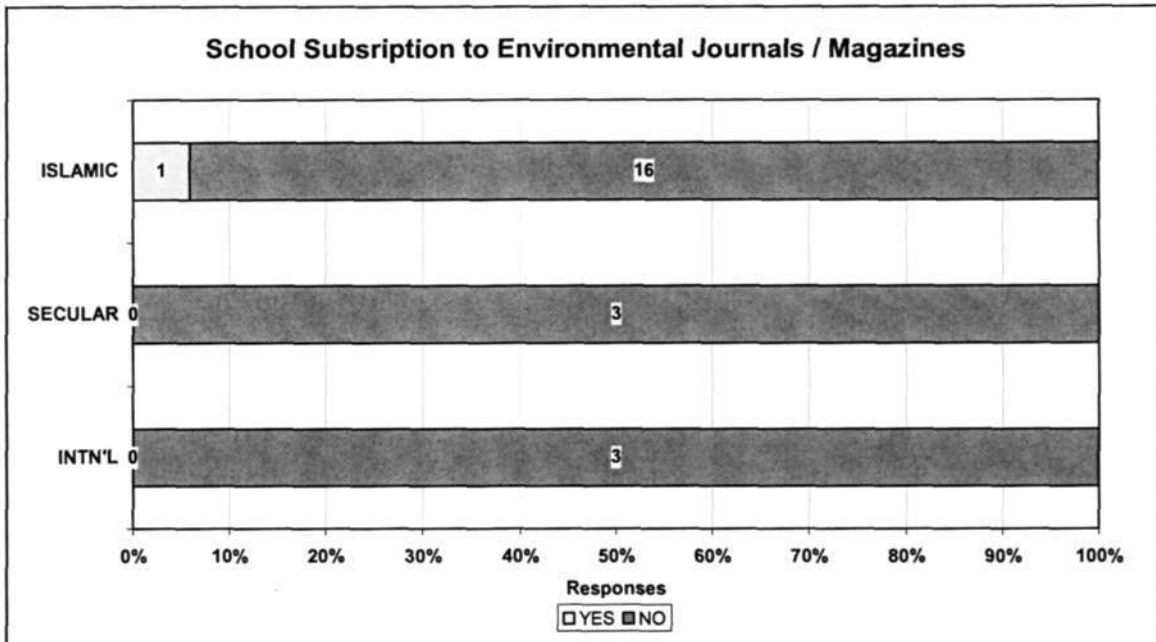
Graph O: Talks by Ulema on the Environment

82% of Islamic schools invite Ulema (in-house and visiting) to talk to their learners on the environment.



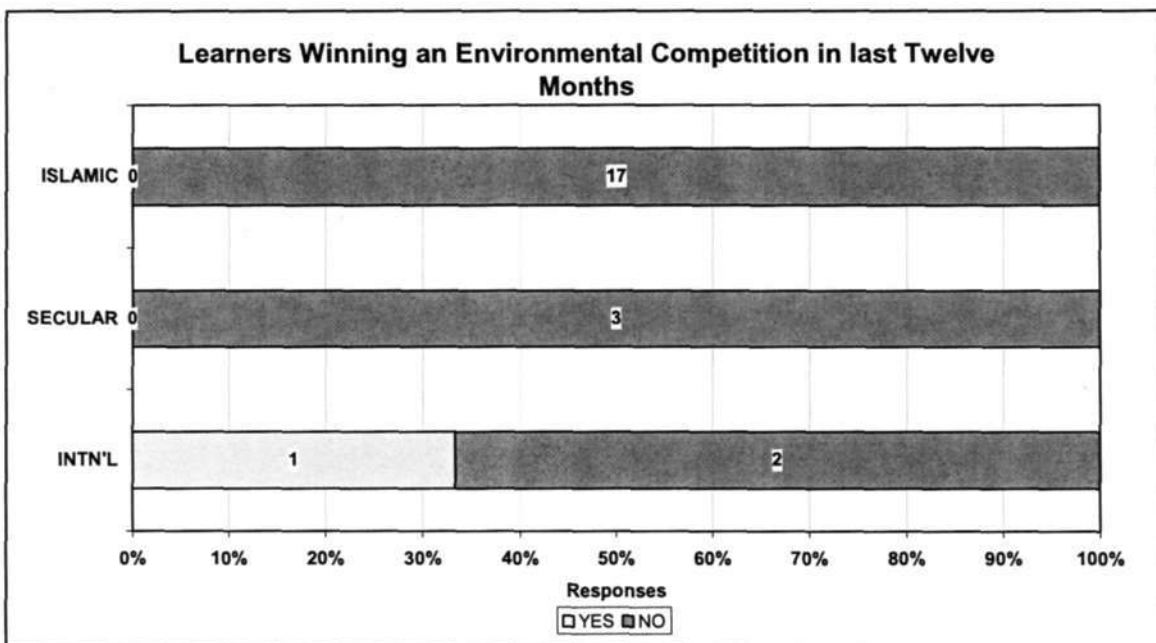
Graph P: Assembly Talks By Learners On The Environment

82% of Islamic schools get their learners to talk on environmental issues.



Graph Q: School Subscription To Environmental Journals

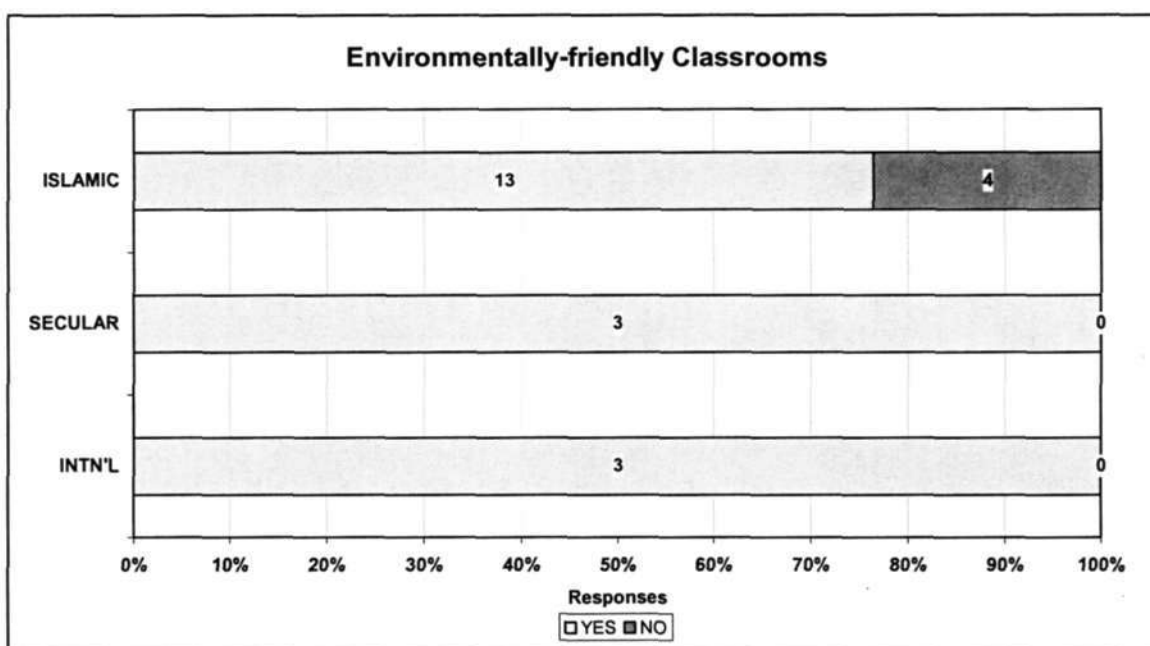
Commonly subscribed magazines include National Geographic and Getaway.



Graph R: Learners Winning Environmental Competitions In Last Twelve Months

0% (nil) of the Islamic schools participated in Environmental competitions. Newspapers, magazines, the private sector, state departments and garages often hold

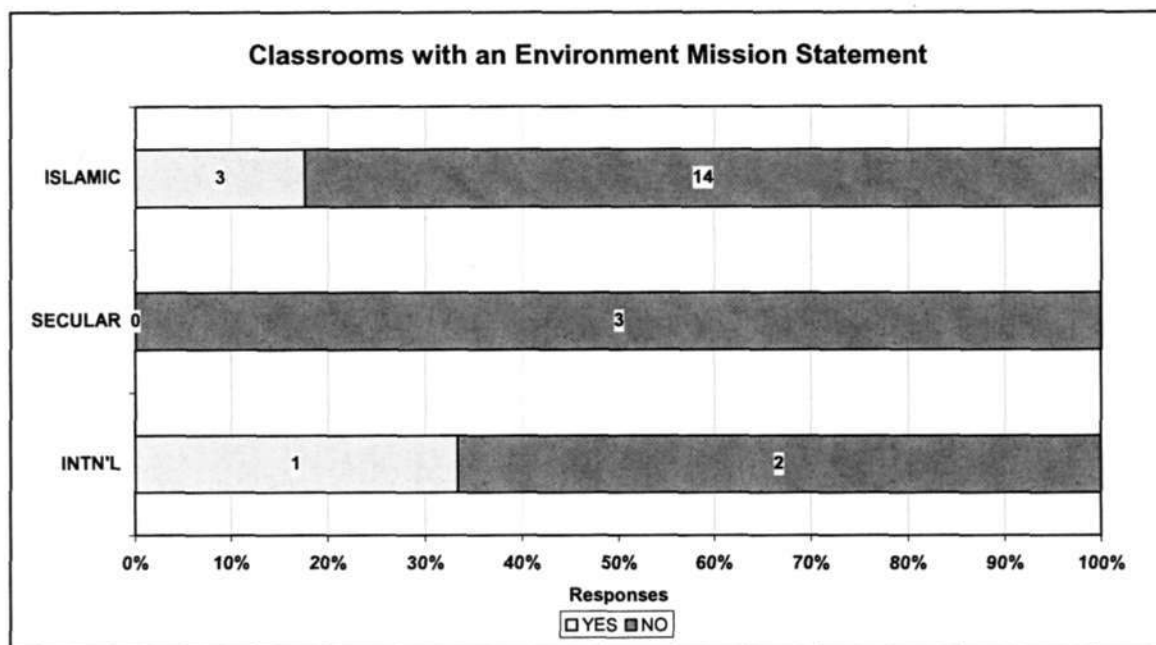
competitions relating to environmental issues. These competitions are held in the form of essay-writing ventures, filling in slogans, poster competitions. Engen held a highly successful campaign to ascertain which town or city was the cleanest in the country. It is important to educate Muslim children to the fact that they are allowed, Islamically, to take part in competitions where there is no money paid and the cause is a good one. One cannot for example participate in alcohol-related competitions.



Graph S: Environmentally Friendly Classrooms

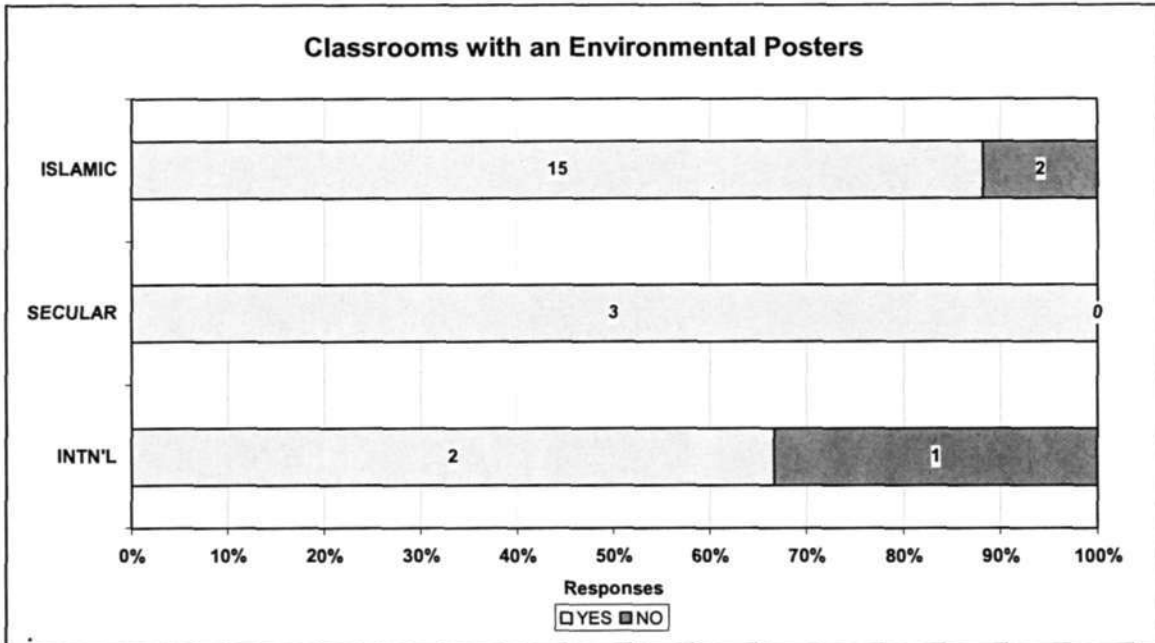
76% of Islamic schools had aesthetically appealing, environmentally-friendly classrooms.. In many recent educational research articles mention is made of a new buzz word called **CLASSROOM ECOLOGY**. There is growing confidence in this area of research which shows that the set-up of a classroom (posters, desks, windows, curtains, plants, rules, quotations) has a direct bearing on the mind-set of the learner. Simply pasting a large world map on the class notice board, with pieces of coloured wool pointing from actual newspaper cuttings to the actual geographical point of occurrence on the map with an office pin empowers learners to learn more about issues which take place regionally, nationally and globally. When questioned, many learners at Islamic schools did not even know that a landing on Mars had taken place or that the Amazon Forest is in danger of being completely destroyed. Learners tend to be insulated, steeped

in local news and gossip, knew about the oppression in Palestine but could not even identify the new Minister of Education as Naledi Pandor. In conclusion, the relationship between the abiotic elements (non-living support material) and biotic elements (living learners and educators) is a serious educational issue. In one school, where I taught a very energetic, boisterous class of only boys, placing old magazines donated by parents on sport, motor cars, motor bikes, and computers actually got the boys busy during the change period. Their noise levels were drastically reduced.



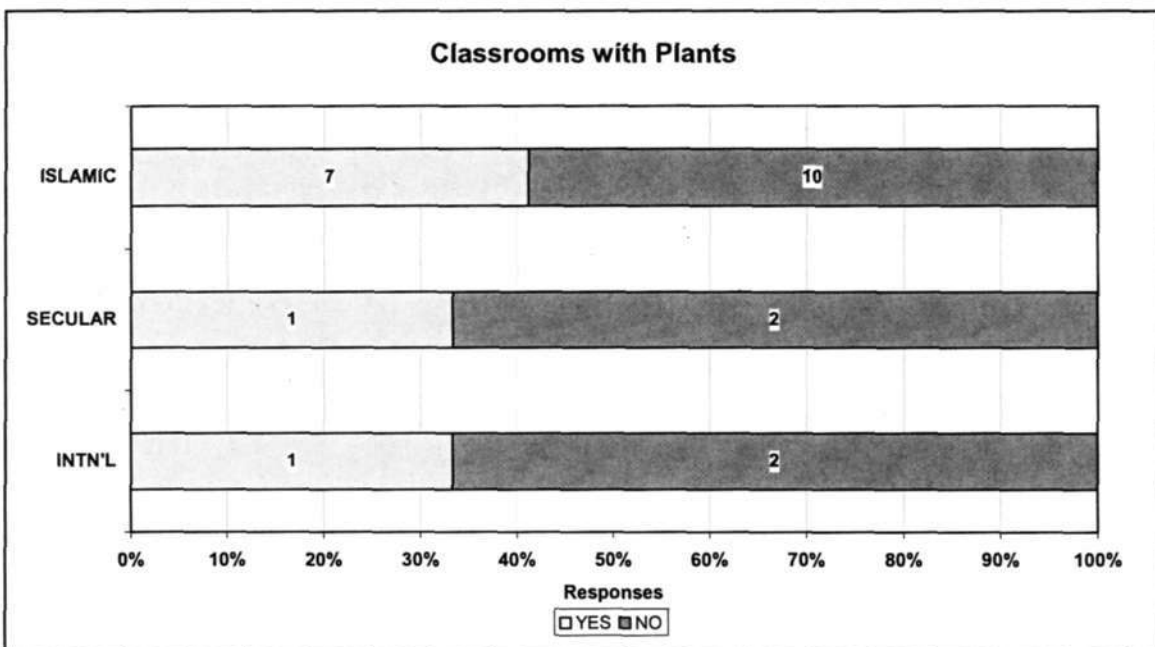
Graph T: Classrooms With An Environment Mission Statement

18 % of Islamic schools had classrooms with an environmental mission statement..



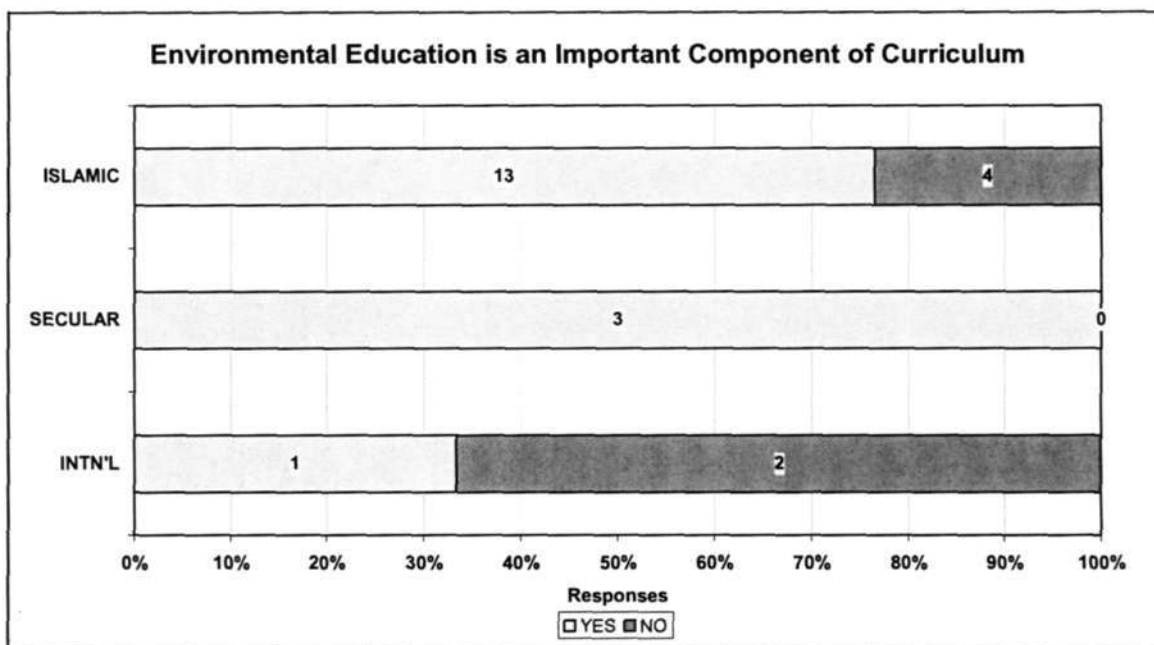
Graph U: Classrooms With Posters On The Environment

In Graph U 88% of Islamic schools had classrooms with environmental posters.



Graph V: Classrooms With Plants

41 % of Islamic schools encouraged keeping plants in their classrooms.



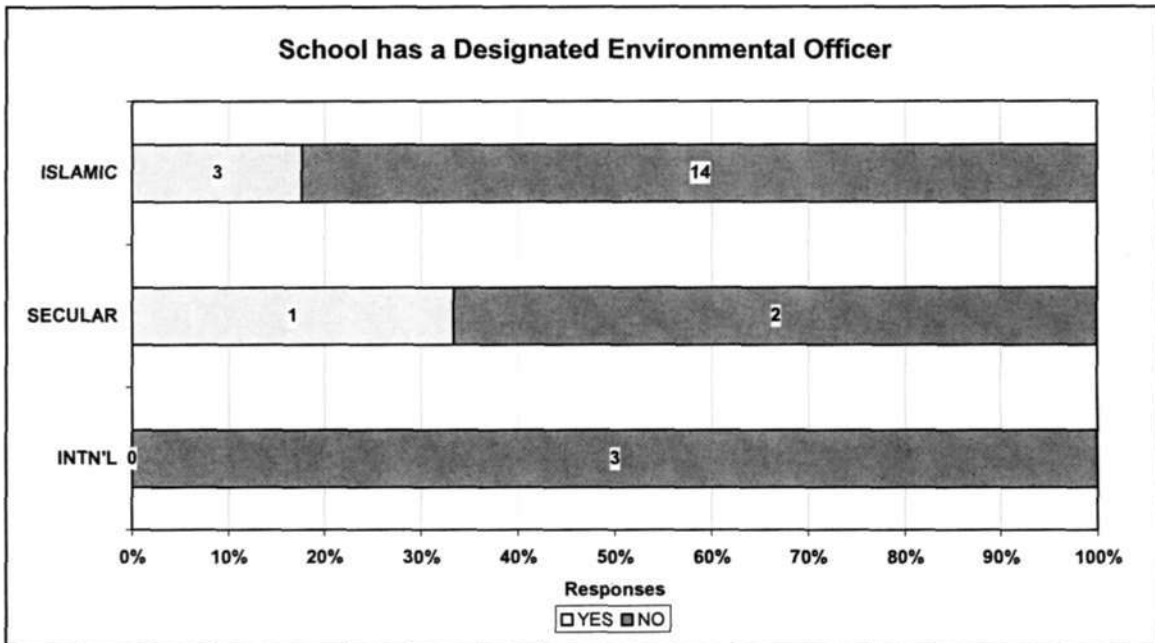
Graph W: Environmental Education Is An Important Component Of The Curriculum

76% of Islamic schools considered Environmental Education as an integral component of the curriculum. Here are some of the comments related to the different learning areas in which EE is integrated:

- EE is integrated into Arts and Culture, Life Orientation and Natural Sciences
- As part of the Human and Social Sciences and Natural Sciences learning area programmes.
- The section on **Ecosystems** is integrated into Biology (Grade 10) and Geography (Grade 12)
- The **Environment** is included as a substantive theme in the Foundation Phase and also in the Intermediate phase.
- In one Islamic school **Environmental Education** is very seriously adopted because the school is “flat-like” with no recreational facilities.
- Learners are taught about the environment during Tafseer^{lvii} lessons.
- The **Environment** is inextricably linked with Islamic Studies

^{lvii} Refers to the interpretation of the verses of the Holy Quran

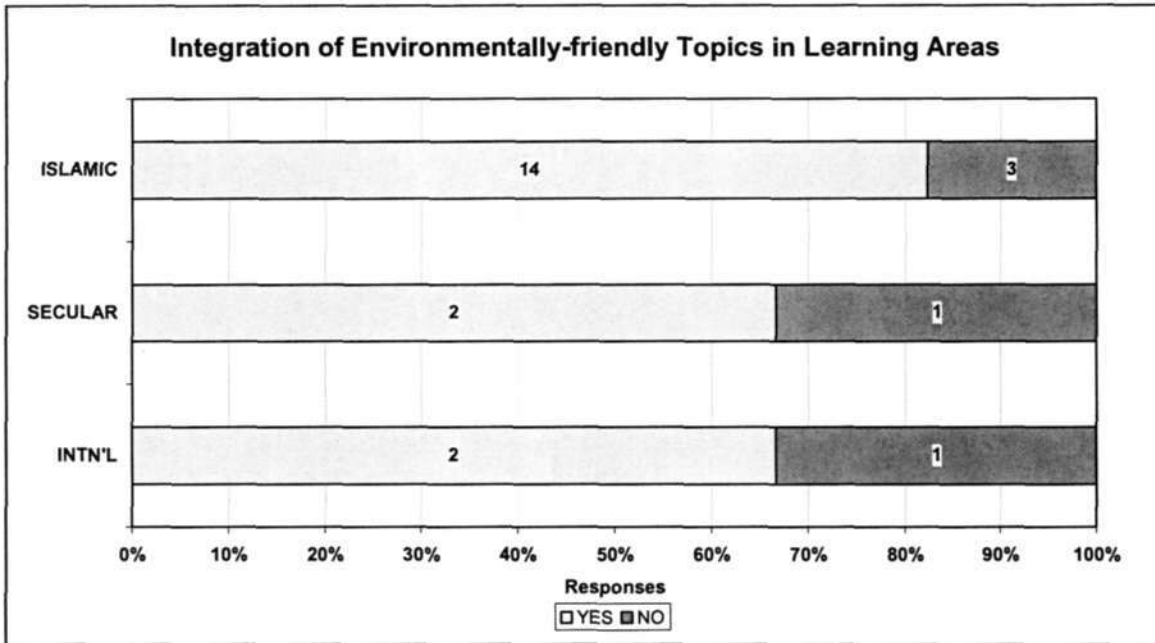
- **Environmental Education** is taught as an important component of the Life Orientation learning area



Graph X: School Has A Designated Environmental Officer

21% of the sample of Islamic schools had environmental officers. 79% of the sample population of schools had no environmental officer.

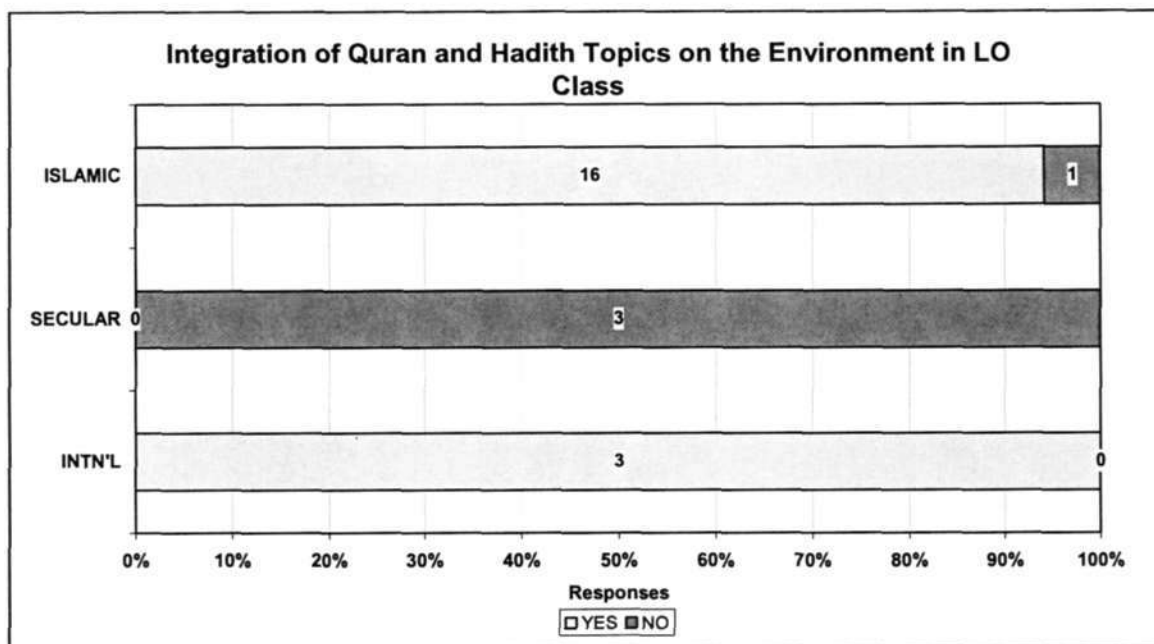
It is critically important that Islamic schools realise that Environmental Education leads to *social transformation* and is inextricably an indelible part of the value-based ethos. This is the very reason why Islamic schools were established. An environmental officer should be designated in the same manner in which schools have a Sports Director which far reaching Environmental Education directives.



Graph Y: Integration Of Environmentally Friendly Topics In Learning Areas

Graph Y indicates the following common patterns of EE in Islamic schools in South Africa:

- Most of the EE is integrated into Human and Social Sciences, Geography, Islamic Studies and Natural Sciences.
- 82% of Islamic schools integrate EE topics across the curriculum.



Graph Z: Integration Of Quran And Hadith On EE Topics During The Islamic Studies/Life Orientation Period In Class

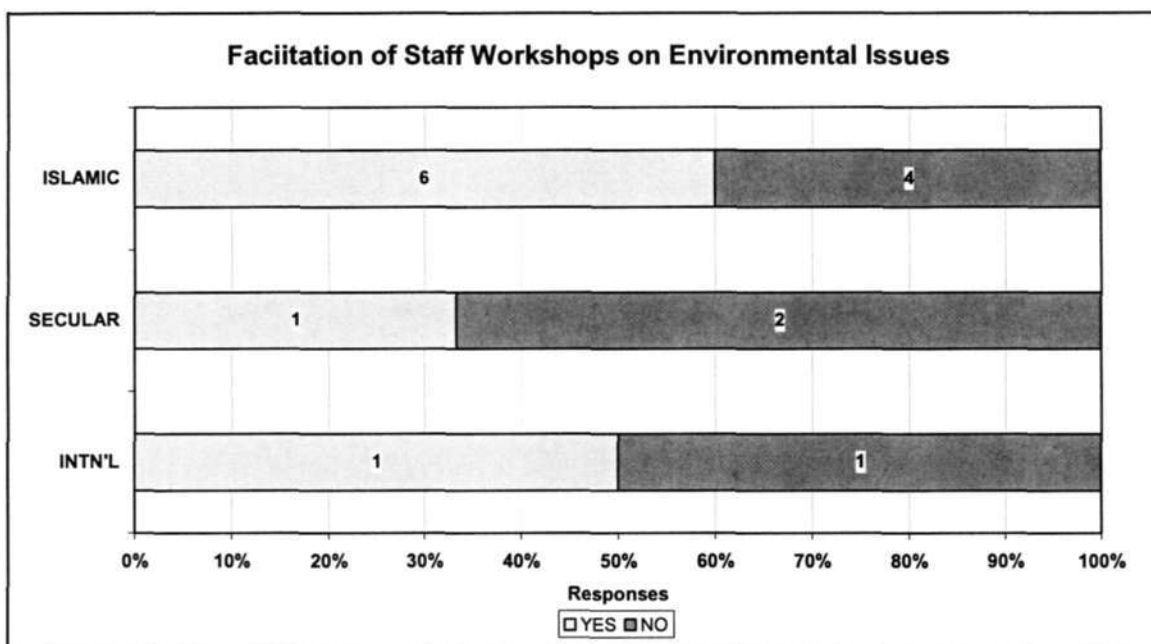
The following can be gleaned from the results presented above:

- 94% of Islamic schools integrate Environmental topics into their Islamic Studies lessons.
- Learners are made aware of the Greatness of Allah
- Learners are often made aware of “Amanah” in protecting the environment.
- Life Orientation is taught by professionally qualified theologians.
- Schools introduce verses from the Quran eg “And the sky We have raised high and established the balance, the order that you may not transgress the balance” (in nature)... (Surah Rahman verse 87,8)
- Health issues focusing on litter and pollution are constantly raised in Islamic Studies eg Allah curses those people who litter public places.
- There is general agreement that EE is being taught using the Quran and Hadith as the basis of Divine knowledge.
- Educators agree that the Quran and Hadith have adequate information on Environmental issues which can be utilized to Islamise lessons across the educational curriculum spectrum.

Whilst the above is most welcome, Environmental Education must not be reduced to talk shops. There is greater need for learners to be involved in “on the ground” projects which will benefit the school and the community at large. There is a need to “Talk the Quran and Walk the Quran”! The verses in the Quran need to be implemented in our daily lives. Properly planned Islamic Studies lessons on the environment should ideally be conducted outdoors

If there are verses identified in the Quran about farming and the hydrological cycle, Islamic Studies classes should include:

- Observation of these natural events. Educators could even make use of audio-visual media in showing learners deserts, tornadoes, earthquakes.
- Research into reading relevant articles and searching on the internet.
- Experimenting on processes of condensation, evaporation, sublimation to verify hydrological processes..
- Involving learners in group work activities related to farming techniques, levels of farming, farming types, irrigation methods.
- Getting learners to join in dialectical discourses.

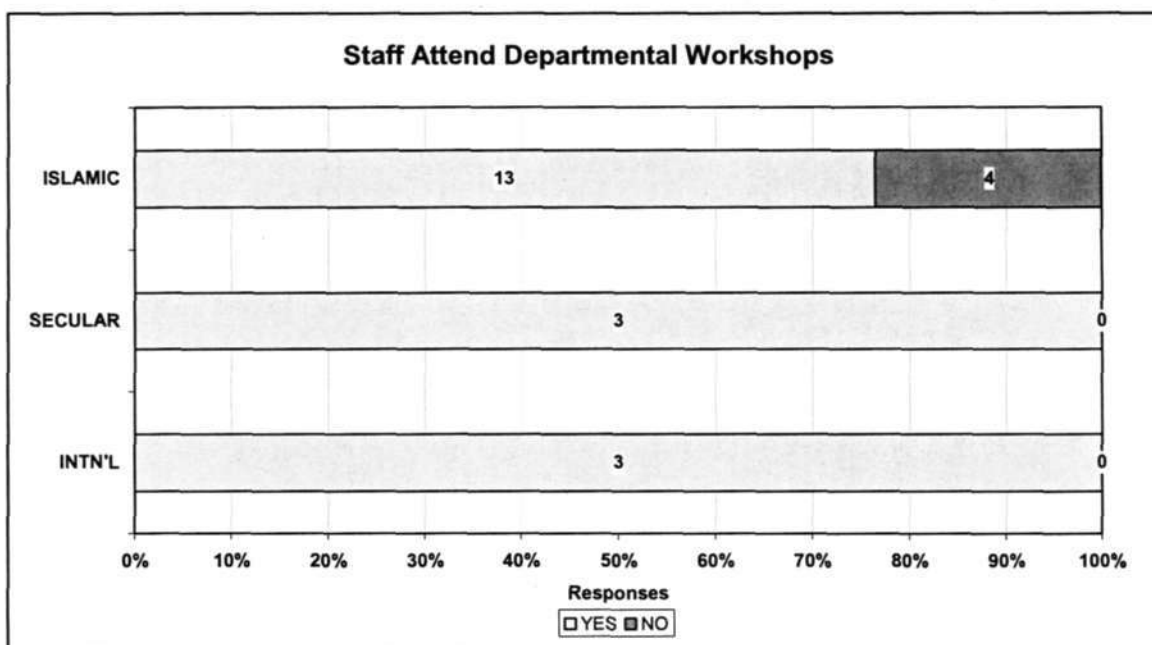


Graph AA: Facilitation Of Staff Workshops On E.E.

35% of Islamic schools held workshops with their staff on environmental issues. 65% of Islamic schools did not pay attention to the aspect of holding professional staff development workshops on E.E. with their staff.

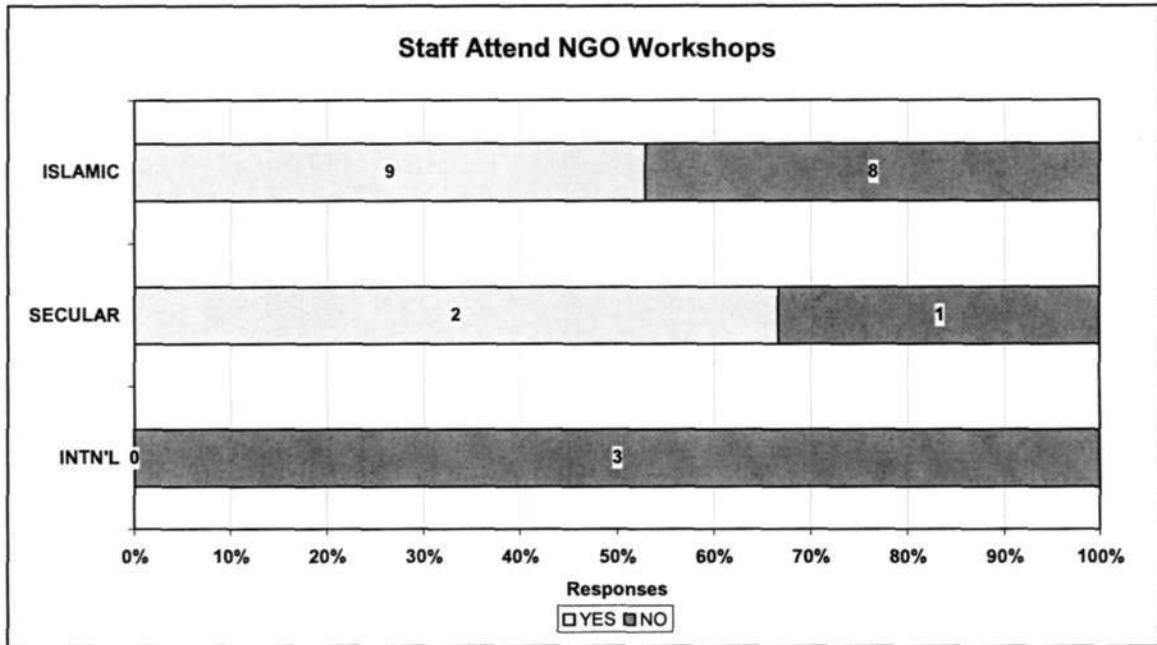
Of the 35% of Islamic schools who attended staff workshops, the following observations emanated:

- Staff are enthusiastic about these workshops when they are actually arranged.
- When companies eg SAPPI invite the possibility of staff development through providing their environmental extension officers, schools respond spontaneously.
- Different workshops are held relating to various needs concerning Environmental Education.
- Environmental workshops are welcomed by staff, but this is always not possible due to logistical reasons.



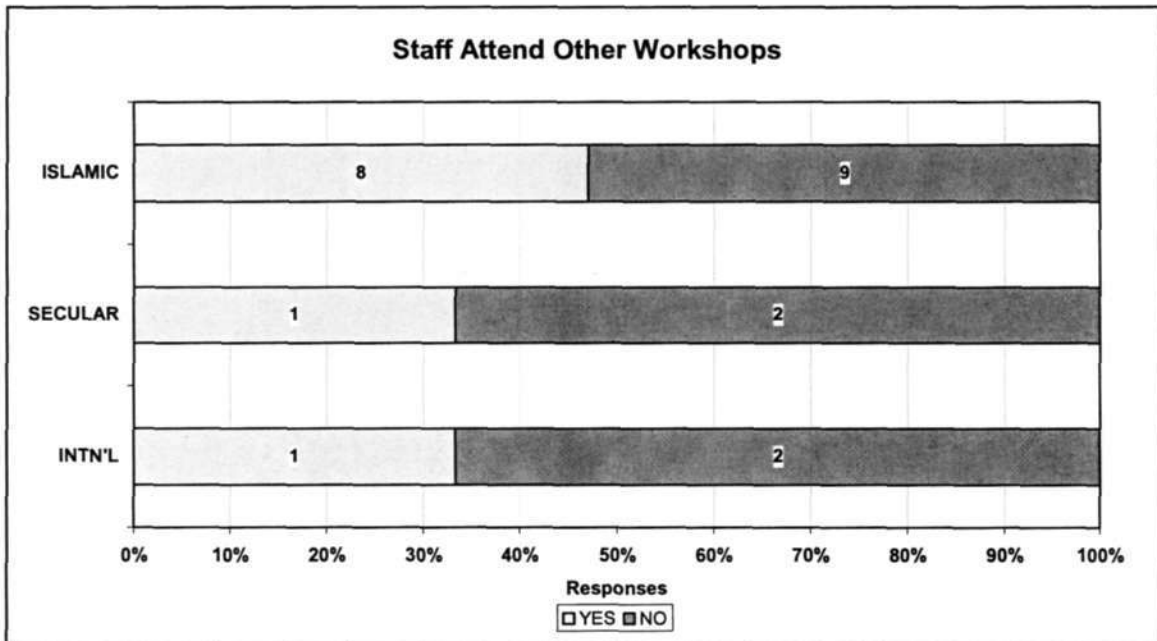
Graph BB: Staff Attend Departmental Workshops

76% of Islamic schools attended Departmental Workshops on E.E.



Graph CC: Staff Attend NGO Workshops

53% of Islamic schools attended NGO workshops on E.E.



Graph DD: Staff Attend Other Workshops

47% of Islamic schools attended other workshops on Environmental Education.

The issue of staff development workshops cannot be over emphasised here. The biggest problem facing educators in Islamic (and public) schools is the lack in personal growth. Teaching becomes like *monoculture*. We “plant the same crop year in and year out, resulting in soil exhaustion”. The analogy here is significant because a lack of exposure to current debates on environmental issues signals intellectual stagnation

3.6 GENERAL COMMENTS BY INTERVIEWEES

In the last part of the questionnaire, latitude was given to interviewees to furnish **GENERAL COMMENTS** in respect of the situation regarding Environmental Education at South African Islamic schools. The comments are summarized below:

Comments

There is a dire need for Environmental Education to be offered as a substantive subject for learners who live mainly in inner city and suburbs close to the city centre. To cater for this learners have to be taken on field trips to observe (first hand) **ecosystems** in particular and how the various **ecosystems** have been affected by man’s indifference and greed. Getting learners to visit zoos, SPCA’s^{lviii} offers therapeutic alternatives to learners these who lack empathy in rough, aggressive environments found in inner city regions.

In urban areas, learners need to be involved in a thorough study via **research and development of informal settlements (squatters) and urban decay (slum areas)**. Learners must observe the characteristics of the above and generate means of alleviating these problems.

More emphasis ought to be placed on **Environmental issues** at the **pre-school level**. In this phase, EE is neglected altogether. There needs to be petting zoos, atria and the like for little children

The Association of Muslim Schools is obliged to hold a seminar on the issue of **Environmental Education** as this area is relevant and a must for all Muslim learners

^{lviii} Society for the Prevention of Cruelty to Animals

and educators. Competitions in the form of speech contests and quizzes must be encouraged.

It is incumbent upon each educator in Islamic schools (as value-centred institutions) to inculcate in each learner the love for the environment through the Quran and Sunnah (teachings of the Prophet Muhammad PBUH)

There is a need for the Body of Muslim Theologians (the three main Jamiats) to host an interactive workshop on the **Environment**. This workshop must be hosted by a panel of Aalims who must show educators (formal and Islamiaat) the way in which issues related to the **environment** can be infused into Islamic schools.

Environmental Awareness has to be fostered especially in urban school settings where recreational facilities are sometimes non-existent..

The Association of Muslim Schools (AMS) should ensure as its mission statement that all Islamic schools are teaching E.E. and that all Islamic Schools understand the importance of **Environmental education**.

It is agreed by most educators that a fixed period should be allocated for **Environmental Education** and this should be taught by the **Environmental Education officer** designate.

It is also agreed that **Environmental Education** has to a large degree been neglected in South African Islamic schools. As a result of this, pollution and littering has exacerbated.

The following should be standard features in Islamic schools:

- Establishing a **peace garden**
- Establishing a petting zoo/animal farm
- Establishing an aviary/aquarium
- Growth of indigenous trees and shrubs
- Maintenance of natural vegetated areas
- Greening projects

- Develop in the school's year planner (quiz, debates, World Environment Day, Arbor Day)
- AMS needs to have in its year planner more environmental programmes
- Excursions to ecological sanctuaries
- Ecological projects eg Operation School Clean Up
- Community Projects eg Clearing alien plants

This research questionnaire created the realization that **Environmental Education** has been neglected. Educators also felt that Environmental Education should be an on-going process with activities taking place regularly.

The values-based curriculum in Islamic schools offers the ideal platform to introduce EE at a vociferous level. As we are already aware (Read Chapter Five), Environmental Education leads to social transformation. Learners in Islamic schools will no longer be judged only by their exit secular results. The introduction of EE in the AMS curriculum will foster a life-skills strengthened effort to produce better Muslims who have analytical *and problem solving skills*. In effect EE promotes the development of Muslim leaders of a high calibre. EE is an alternate form of development modality.

3.7 CONCLUDING REMARKS

This study concerning the status of Environmental Education in South African Islamic schools has created an interesting avenue for further development of Environmental Education through well co-ordinated workshops. The questionnaire assisted in exploring the various aspects of Environmental Education. Although the questions were exhaustive, these questions on their own cannot be limited to those asked in the research questionnaire.

The findings of this chapter will assist the Association of Muslim Schools realize:

- Environmental Education is being practised by South African Islamic schools *albeit* at a sedentary level. AMS' vision of **Islamising** the curriculum is being realized. However, there is ample scope for E.E. to be the catalyst in Islamising the curriculum

- There is an urgent need for a National Environmental Education Conference.
- The control (research done with a few public schools and international schools) indicates that there holds great promise for this area.
- It is Allah's divine command that the Environment be protected. In this respect, it becomes obligatory for AMS to further the development of this neglected area.
- Islamic schools are private, independent entities. There is no legislation which prescribes that Environmental Education be taught across the curriculum. However, each public school (which falls within the ambits of the department of Education) has to ensure that the vision of the state in respect of Environmental Education is upheld. Public schools do have a choice to encourage Environmental Education at all levels. Islamic schools can lead the way in the sense that their aim of using E.E. as the "vehicle" for *social transformation* is a greater ideal to strive for.

Table 2 shows the responses of the controlled group in a comparative "question by question" analysis with reference to the research questionnaire. The controlled group comprises three schools from the public schooling sector in South Africa and three international schools (2 in Dubai and one in Saudi Arabia). All responses indicated in Table 2 below indicate yes responses shown as a percentage. From the statistics available it can be observed that: when compared to the controlled group, Islamic schools:

- rate well in all categories of the questionnaire
- consisted of 17 schools as the sample of the population. When compared to the controlled group, the statistics related to Islamic schools is more valid than the controlled group due to the sample being reliable and large.
- Of interest is the strength of Islamic schools in the categories of integration of E.E. in the curriculum and the integration of environmental topics (from the Quran) into LO lessons.

Table 4: Comparative Study: Islamic Schools in SA Compared To Secular and International Schools

GRAPH	QUESTION	SECULAR SCHOOLS	INT’NATIONAL SCHOOLS	ISLAMIC SCHOOLS
A	EE in FP	67	67	65
B	EE in IP	67	67	71
C	EE in SP	100	33	71
D	EE in FET	33	33	53
E	Observation of WED	67	100	53
F	Observation of Arbor Day	100	33	88
G	EE Notice Board	33	100	29
H	EE Posters	33	100	53
I	Environmental Club	0	67	29
J	Newsletter	33	33	6
K	Garden Patch in school	33	100	47
L	Presence of Plants/trees	100	100	82
M	EE books in LRC	100	67	82
N	Assembly talks (visitors)	33	100	71
O	Assembly talks (Ulema)	33	67	82
P	Assembly talks (Learners)	67	100	94
Q	Subscription to EE magazines	0	0	6
R	Winning Environmental Competitions	0	33	0
S	Environmentally Friendly classrooms	100	100	78
T	EE Mission Statement in Classroom	0	33	18
U	EE posters in classroom	100	67	88
V	Plants in classroom	33	33	41
W	EE is an imp part of the Curriculum	100	33	93
X	Environmental Officer in school	33	0	18
Y	Integration of EE in LO	67	67	82
Z	Integration of Quran/Hadith in LO class	0	100	94
AA,BB,CC,DD	Attendance by Staff: Workshops	58	42	53

KEY

FP: Foundation Phase IP: Intermediate Phase SP: Senior Phase FET: Grades 10-12 LO: Life Orientation learning area WED: World Environment Day EE: Environmental Education LRC: Library Resource Centre

4 CHAPTER FOUR

Proposals for South African Islamic Schools and Islamic Institutions to Develop Environmental Education as an aspect of Social transformation (*Tarbiyah*)

4.1 INTRODUCTION

In Chapter Four, the following aspects related to the topic *Islam and the Environment* are explored with a view to provide a betterment programme for the development of Environmental Education (EE) within the context of South African Muslim mainstream society. The ill-effects of *globalization* have also been discussed in Chapter Two. The basic assumption of this thesis, after the empirical research was conducted and the conceptual framework developed around the issues of *Islam and the environment within the context of worldwide globalization* lead us to the following understanding of the phenomena (problem) facing educators and community leaders in South Africa alike :

- Globalisation has increased mass consumption of goods and services
- Globalisation has consequently resulted in increased pollution levels, wastage, environmental despoliation, exacerbated soil erosion through over farming, dwindling marine resources caused by over fishing and like consequences.
- Globalisation affects Muslim countries and communities alike.
- Steps have to be taken by Muslim communities to counter the effects of globalization at “grassroots level”.
- Muslim leaders have to draw from divine sources of knowledge and disseminate this information to their communities
- Environmental Education must be seen as a realistic option to develop self-sustaining Muslim communities.

Environmental Education (EE) has been defined as the enhancement of people’s awareness of environmental problems and of behavioural solutions that may address these problems. The guiding rationale behind EE programmes is that information will lead to greater environmental awareness, skills and motivation, causing changes in attitudes and ultimately in behaviour patterns resulting in the solution of environmental problems (Bell *et al*, 1996; Mc Andrew, 1995; Tyson, 1994)

It has already been established in Chapter two that the divine book, the Holy Quran and the way of life shown to the Muslim Ummah (nation) via the Sunnah of the Holy Prophet Muhammad (PBUH) which we refer to as Ahadith support the fact that Islam espouses the protection and upkeep of the environment. It was also established in this

Chapter that humankind is the custodian of the treasures which are provided in the natural order of things. It is therefore qualified that the basic tenets of Islam support Environmental Education as an integral aspect of life for a Muslim.

It was also established in Chapter Three that Islamic schools and institutions have taken cognizance of the importance of Environmental Education (and its importance in the divine books) and Environmental Education is a part of the pedagogy of many Islamic schools. However, it is observed with concern that not enough is being done to optimize Environmental Education within the Muslim communities found within South Africa.

Therefore, this Chapter attempts to show the way forward in respect of the following:

- To propose a generic, socially responsive model of use which is outcomes-driven and which is user-friendly. Reference is made to Malaysia in the usage of this model. This model can be tested for use in the South African situation. This model has universal application.
- An idea of how Environmental Education can be taught in South African Islamic schools using *Outcomes Based Education (OBE)* as the educational paradigm
- An Environmental audit and how this can be conducted in Islamic schools
- An example of an outcomes-driven ecological fieldtrip and its didactical advantages
- School projects: eradication of alien plants, establishing vegetable patches/ gardens, greening projects, petting zoos, improving classroom practice, setting up the proper EE library, integration of Quran and Sunnah
- The School and the Community (Clean Up Campaigns, Gardens)
- Ways of incentivising Environmental Education projects:
- The realization of the importance of Environment Education (post-research)
- The AMS (Association of Muslim Schools) 1996 Conference in Cape Town: what lessons were offered for Islamising the curriculum.

- A proposal for an Environmental Education course offered by the Islamic Studies Standards Generating Body (SGB) in conjunction with AMS which is accredited by SAQA (South African Qualifications Authority)
- A look into the works of Paul Hart and Ian Robottom in respect of Canadian and Australian schools and their implementation of EE
- A Muslim country: Dubai : impressions about its involvement in Environment Education issues.

4.2 TOWARDS A SOCIALLY RESPONSIVE OUTCOMES DRIVEN-MODEL FOR THE DEVELOPMENT OF ENVIRONMENT EDUCATION IN ISLAMIC SCHOOLS AND INSTITUTIONS WITHIN THE CONTEXT OF SOUTH AFRICA

The flowchart below (Figure 8) illustrates the relationship between the author and an outcomes driven initiative to effect changes in Islamic schools through the implementation of workshops and mini-conferences. This model focuses primarily on the fact that Islamic schools do not exist in a vacuum. In reality, schools exist within (A) a *social* environment (rural, urban, peri-urban), (B) a *political* environment (does the supporting structure facilitate an EE approach?) and (C) a *physical* environment? . The physical environment begs questions such as : what are the factors which encourage the promotion of EE eg is the school exposed to litter, is pollution a problem in the area in which the school exists? The three environments facilitate an understanding of the context within which Islamic schools and institutions exist.

This model is *generic* in nature to suit most school situations. The outcomes-driven approach places great emphasis on effecting attitudinal and behavioural changes in Islamic schools and institutions. The Muslim *Ummah* is in dire need of a pro-active approach in solving environmental issues. The point of departure is to draw from Quran and Sunnah.

The various Islamic schools found within the South African context differ in their socio-economic stratification. Schools are found either in urban, rural, peri-urban, affluent or other contexts. However, the unifying factor amongst Muslims in South is their strong belief in Divine law. There must therefore be a conscientious attempt to build enough

capacity in Islamic schools and to draw from the Quran and Sunnah on environmental issues.

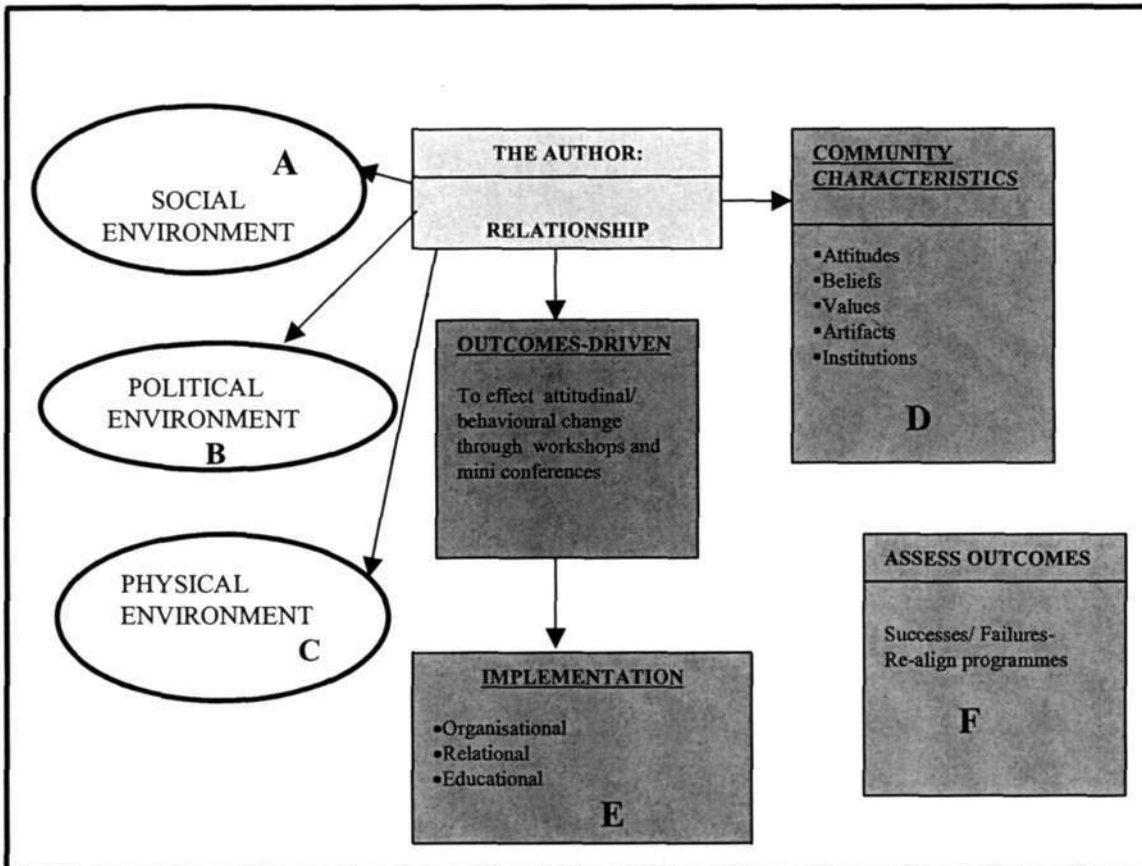


Figure 8: A socially responsive environmental education model for sustainable development

In section D of the flowchart above, it is evident that Divinity can play a leading role in elevating communities by focusing on ATTITUDES ,VALUES and BELIEFS within Muslim communities in South African. Islamic schools and the Jamiats are the institutions through which training of Ulema and educators can take place to affect a competence-based approach towards improving and sustaining the environment.

Once properly trained, educators and Ulema (preachers) can act as catalysts for the entire South African Muslim community.

Attitudes

This research has touched the “tip of the iceberg” in respect of the mind-set (attitudes) which exist in the various Jamiats (JUKZN, MJC and JUT). The attitude of schools and the Jamiats is a positive one in developing sustainable EE community projects. Therefore, attitudes and behavioural changes can be affected via the hosting of proper EE conferences. The AMS and the various Jamiats can play a leading role in the hosting of such conferences. The conferences need not be *grandiose* but in the form of small workshops hosted at least twice a year.

Beliefs and Values

As it was already established in Chapter Two, the Aaidah (belief) of a Muslim includes the protection and preservation of life albeit in any form. The conservation of our fauna and flora is of utmost importance. The tenets of the Quran (divine law) have decreed that every human is a *Khalifah (representative)* of Allah on this planet. Every human is obliged to take care of the natural environment. This basis positively influences the implementation of the model. It is therefore pre-supposed that the model can work most effectively in South African Muslim society.

Artefacts

The Culture of any community is embodied in its many facets viz. art, cultural ways, crafts, practices. These are referred to as its artefacts. Artefacts refer to the manufactured objects of any community. A study (which will follow the completion of this thesis and which falls within the scope of another research study altogether) of the Muslim community’s artefacts in South Africa will enable historians to gain better, accurate insights into the inner workings of communities in respect of the attitudes and beliefs of the Muslim community in the field of *Islam and the Environment*..

Institutions

In any country, the presence of the following key aspects is crucial to its existence:

- An Economic system
- Educational Institutions
- A Political system

- Religion
- Culture

Schools and other institutions play a vital role in educating the various communities found within the diverse population of South Africa. The focus of this thesis is that institutions like the Jamiat and Islamic schools should realize that they are important components of the social system. There can be no improvement or betterment programme for EE in the wider context of Muslim society in South Africa if institutions are not prepared to re-adjust and re-align their pedagogies for effective dissemination of information related to EE.

The importance of becoming involved with the community as a whole and not only attempting to address one aspect of community life cannot be over-emphasised.

Implementation of a viable Environment Education programme (refer to E)

Fred van Staden (1996:3) identifies ignorance, poverty and overpopulation as some of the most important psychological, social and economic causes of environmental mismanagement. In searching for solutions, it has been argued that education (formal, informal or non-formal) is a key in developing optimal human-environment relations.

Only through education is understanding broadened and the development of thoughts and skills encouraged. Skills would serve as the basis for enhancing the quality of life in disadvantaged communities and for implementing sustainable environmental management programmes.

The implementation phase of the model assumes that there should be emphasis placed on the following three aspects:

Organisational

Organisations like the Association of Muslim Schools, the Islamic Studies Standards Generating Body and the various Jamiats must hold Environment Education as high in their list of priorities. The paradigm shift has to be effected “top-down” from organizations to the community. There is no need for a centrally state driven

Environmental initiative because Outcomes based Education in South Africa allows for local communities to “fashion” out their own EE syllabus based on their experiences and social contexts.

Relational

Organisations, local communities, the Association of Muslim Schools and private Islamic schools in South Africa are sub-systems of the wider Muslim community. A *nexus* of linkages and inter-active connections have to be fostered and activated to generate a synergy. This combined *Gestalt* effect will augur well for the conservation and protection of the environment.

Educational

It is argued that the first step in addressing the exploitation of natural resources and the destruction of ecosystems is to develop and implement educational programmes which inform as well as afford economically viable skills in Muslim communities. The begging question here concerns Muslim communities. How many Muslim communities can boast of re-cycling projects, development of ecological sanctuaries and the like. The outside world is quite unaware of the involvement of the Muslim private sector in environmental projects. The Boma project in the international heritage St Lucia site is one of these. There are other smaller projects where ecosystems are being protected along the Hennops River outside Pretoria by Muslim private individuals who are environment conscious. However, this effort needs to gain greater momentum.

Along with an applied focus (eg a Muslim community may decide to clean up the litter along a local river), educational programmes can be most effective if they are aimed at well defined target populations.

Assessing outcomes (refer to F)

The model above also allows for re-adjustment of its fundamental strategies should any systemic problems arise.

4.3 THE MALAYSIAN ENVIRONMENTAL EDUCATION EXPERIENCE: IMPLEMENTING THE SOCIALLY RESPONSIVE MODEL (FIGURE 8)

Anticipated Outcome: To create a sustainable Malaysian society

In the paragraphs below, we take a look at the Malaysian *Tengku* experience to illustrate how the model can be implemented in reality. This research on environmental education in Malaysia is taken from the works of **Adnan bin Tengku Awang** (www.fsifee.u-gakugei.ac.jp)

4.3.1 *Introduction*

Malaysia has a total area of 303,752 sq. km consisting of Peninsular Malaysia with an area of 127,560 sq. km. (42%) and East Malaysia in West Borneo with an area of 176,192 sq. km. (58%). It has a total population of about 22 million and an annual population growth rate of 1.8%. The topography consists of about one-third of hilly land in the central region. The climate is hot and humid with high solar radiation. The mean monthly temperature is 27 degrees Celsius and the annual rainfall exceeds 200cm.

4.3.2 *The Main Environmental Problems*

Malaysia, like other countries in the world, also faces problems of environmental degradation which if left unchecked, will threaten the well-being of the people.

The main environmental problems are:

- a) Deforestation due to forest land being cleared for agriculture and other development and illegal logging of forest trees. This has caused adverse effects on wildlife and caused erosion, exacerbated floods and siltation has affected water supplies.
- b) River pollution due to sewage waste and effluents from rubber processing factories, oil palm mills and manufacturing industries.
- c) Oil pollution and the recent dumping of sludge and toxic waste by foreign ships into the sea in the Straits of Malacca have affected marine life and the livelihood of fishermen.

- d) Air pollution due to industries and transportation in urban and industrial areas and also due to open burning of solid waste to a lesser extent. In 1996 and 1997, Malaysia experienced its worst haze problems mainly caused by forest fires in South-East Borneo and Sumatra which disrupted air transportation schedules and also caused health problems.

In context of the model, the condition of the *natural environment* (refer to C) has been clearly highlighted within the Malaysian context.

If one were to apply this model to the South African situation you could begin with the premise that South Africa is a *semi-arid country*. Issues concerning the usage of water become the focus of the model.

The model pre-supposes the following pro-active steps after the natural environmental problem (eg. air pollution has been identified as a problem in the Malaysian context of the model) :

- ✓ Gathering and collating data about environmental problems
- ✓ Preparing and implementing strategies for improving land and resource use patterns
- ✓ Ensuring that financial allocations (communities are eligible to receive grants-in-aid from local municipalities) are effectively utilized.
- ✓ Involving local leaders, the community and the private sector in improved environment practices.
- ✓ Establishing local industries eg nurseries, cottage industries
- ✓ Providing assistance in the marketing of environmentally-based products eg honey, dairy products.

4.3.3 *The implementation phase: Environmental Education Programme in Schools (Refer to E in the model)*

The Malaysian Ministry of Education has embarked on a national environmental education program to create environmental awareness among learners. Environmental Education is not taught as a separate subject but is taught across the curriculum.

The aim of environmental education in Malaysian schools is to develop learners who will be more sensitive and observant about the issues related to the environment and are conscientised more about *sustainable development*. The teaching and learning strategies of environmental education are advocated in school programmes as follows:

- knowledge and attitude
- thinking skills
- manipulative skills
- application of concepts and knowledge.
- Learning stations in the school and its surroundings are set up for the teaching and learning of *environmental concepts*. Therefore the environment becomes the stage for learning about environmental issues
- Stations on soil, population, flora, and fauna, energy, waste materials, weather, water, air and physical features are some of the environmental stations that encourage the understanding of the environment and its interaction.
- In-service teacher development programs to guide educators and education officers are held all year through to help them keep abreast of new developments in the field of environmental education.

4.3.4 *An Overview of Environmental Networking In Malaysia (Refer to A and B in the model): Supporting Political and Social environment*

In Malaysia various governmental organizations have played an active role in supporting the Ministry of Education to implement environmental education programmes. Some of the governmental organizations such as the Department of Fisheries, Department of Irrigation and Drainage, Forest Research Institute of Malaysia, Department of Wild Life and National Parks, Local Council, Sarawak River Council and Department of Environment are actively involved in the educational and extra curricular activities of schools.

Besides these initiatives, non governmental organizations such as the Malaysian Nature Society, World Wide Fund for Nature (WWF), Environmental Protection Society of Malaysia, Consumer Association, are also involved in supporting the national environmental educational programmes in schools.

The following are examples of the support and cooperation obtained from the various governmental and non-governmental organizations:

(a) Experts in environmental education from local universities, Forestry Department, Fisheries Department of Wildlife and National Parks and WWF Malaysia have delivered talks at workshops for resource personnel in environmental education.

(b) Environmental education material such as posters, story books, teacher's resource handbooks have been produced and printed by the Department of Forestry, Department of Fisheries, Department of Agriculture, Department of Environmental and WWF Malaysia.

(c) Environmental camps for students and educators have been organized and sponsored by the Department of Environment and WWF Malaysia.

(d) Training workshops for educators on environmental education are organized and sponsored by some NGOs and the private sector. For example, WWF Malaysia has sponsored a course on marine life and United Motor Works Malaysia sponsored a workshop on the recycling of waste materials.

(e) Competitions related to beautification programmes for schools are organized by the local newspapers.

(f) A local newspaper company New Straits Times has organized the collection of old newspaper by school children for recycling.

At the regional level, the Ministry of Education has established contact with some Asian countries such as India, Indonesia, Thailand and the Philippines by sending its education officers for courses, study visits, seminars and conferences on environmental education.

4.3.5 *Problems Concerning the Environmental Education Model* ***(Refer to F in the model: assessing outcomes)***

There is good support and co-operation from various governmental and non-governmental organization including private corporate bodies and the mass media in Malaysia. Nevertheless, there are some problems affecting development of environmental education programmes such as:

- a) Shortage of trained education officers in environmental education at the Ministry and the State level to plan, organize, implement and monitor environmental education programmes in the schools.
- b) Shortage of environmental education material for educators and learners.
- c) Weakness in the monitoring system.

South African Muslim society can only benefit from this Malaysian experience.

4.3.6 *Possible Solutions Concerning Environmental Education* ***Networking in developing a Sustainable Society***

The importance of cooperation - local, national, regional and global - in the monumental task of enhancing people's quality of life, achieving sustainable development concerning environmental education networking towards developing a sustainable society, Malaysia could attend to the following key areas:

- An effective communication network on environmental education should be established within governmental organizations and among governmental and non-governmental organizations.
- Networking among GOs and NGOs^{lix} of the Asia-Pacific Region that would provide a framework for catalyzing, coordinating and organizing EE in the region
- improve the delivery system for EE at all levels of the education system

^{lix} GO's : refer to governmental organisations and NGO's refer to non-governmental organisations.

- produce and enhance manpower capability in the region
- initiate mass rolling based action in managing the environment through information, education and communication (IEC) campaigns.
- A regional centre for EE that will:
 - train EE teacher trainers of Asia-Pacific Region;
 - produce EE support materials;
 - conduct conferences and consultative meetings to discuss regional problems in the environment and find collective action plans to overcome problems
- serve as nerve centre of an EE information and communication network of Asian-Pacific Region. Improve linkages with UNEP, UNESCO and selected universities and colleges for technical assistance.
- There should only be one regional communication network instead of having too many Sub-regional communication networks on environmental education which only duplicate the exchange of information and experiences.

4.4 OUTCOMES BASED EDUCATION AND ENVIRONMENTAL EDUCATION

In order to get a better understanding of the role of teaching and learning in an environmental education context within South African Islamic schools, it is advisable to gain a holistic view of:

4.4.1 Outcomes Based Education (OBE)

4.4.2 An example of a lesson plan using the OBE method

4.4.1 OUTCOMES BASED EDUCATION

4.4.1.1 INTRODUCTION

There is a global trend to evolve an educational system that will be relevant and effective to meet the challenge of a changing economic and social environment as we approach the 21st Century.

In the past, owing to the inequities and injustices of apartheid education, the majority of the South African population (black Africans) was seriously disadvantaged.

Consequently the South African State, together with educationists, and other stakeholders, developed Curriculum 2005 to eradicate past injustices and to meet the economic and social needs of all learners. The new curriculum has been introduced into schools as from January 1998 and will be fully operational from grades 1 to 12 by the year 2005. This system of education (a paradigm shift) has been re-structured into the Revised National Curriculum Statement (RNCS). This educational system involves a new approach called Outcomes Based Education (OBE). This approach focuses on WHAT is learnt and HOW we learn it, rather than only on what is taught. This means that the PROCESS and OUTCOMES of learning are more important than the mere CONTENT

Learners will, in future, be exposed to 8 different LEARNING AREAS, Geography, together with a range of other disciplines (e.g. History, Environmental Studies, Home Economics), will be accommodated in the learning area described as HUMAN AND SOCIAL SCIENCES.

There is no learning area called Environmental Education. It is anticipated that EE will be integrated into the eight learning areas. The focus in this chapter is on the Human and Social Sciences learning area because Environmental Education features most prominently in this learning area. This section of Chapter Four focuses on the relationship between OBE and EE and is a must for every educator to glean through. The following paragraphs approach the subject matter delicately as follows:

- An introduction to the history of OBE
- OBE and Environmental Education
- Critical (cross-field) and specific outcomes
- Teaching a lesson incorporating Environmental Education using the new OBE approach
- The new instructional development plan: planning for the EE lesson

4.4.1.2 THE WAY IN WHICH OBE WILL IMPACT ON THE TEACHING OF ENVIRONMENTAL EDUCATION

Environmental issues are found mainly in the Human and Social Sciences learning area.

It is important for educators to have a clear understanding of OBE and its principles before any attempt is made to integrate EE into lessons. The key *specific outcomes* in the Human and Social Science learning area focus mainly on environmental issues:

- make sound judgements about the development, utilisation and management of resources
- demonstrate an understanding of interrelationships between society and the natural environment
- address social and environmental issues in order to promote development and social justice

The HSS discipline demands a focus on key concepts such as “human” “society” “environmental” and “interact”

The new approach will require educators to focus on the teaching - learning situation differently. The following must be borne in mind when applying the new approach.

THE LEARNER

- every learner is unique
- every learner can succeed
- learners learn best when they do things, discover, have fun, communicate, are not afraid of failing and feel good about themselves.

THE EDUCATOR

- Is a facilitator
- Assesses learners to help them to improve
- Nurtures and supports the learner.
- Guides learning, and does not merely transmit knowledge.

- Works in a team with both learners and colleagues.

ASSESSMENT

- Is integral to learning
- Is on going
- Tests knowledge , skills and attitudes
- Helps learners to succeed
- Is based on the attainment of competences

THE END RESULT [OUTCOMES]

Development of learners who:

- can work in groups
- can communicate
- can solve problems
- are confident
- can work with others
- have life skills

4.4.1.3 CRITICAL AND SPECIFIC OUTCOMES

CRITICAL OUTCOMES

There are 7 outcomes which will ensure that learners gain the skills, knowledge, attitudes and values which will allow them to contribute to their own success as well as to the success of their families, communities and their nation as a whole. These outcomes are common to all 8 learning areas in OBE.

Learners will;

- **identify and solve problems and make decisions using critical and creative learning**
- **work effectively with others as a members of a team, group, organization and community**
- **organize and manage one self and one's activities responsibility and effectively**
- **collect, analyse, organise and critically evaluate information**
- **communicate effectively, using visual, symbolic and / or language skills in various modes**
- **use science and technology effectively and critically showing responsibility towards the environments and health of others**
- **demonstrate understanding of the world as a set of related systems by recognising that problem solving contexts do not exist in isolation**

SPECIFIC OUTCOMES

These outcomes apply only to a specific learning area. The following outcomes are relevant to the Human and Social Science learning area. This learning area was solely chosen because three of the nine specific outcomes found in the HSS learning area are applicable to the field of **Environmental Education**. The specific outcomes related to Environmental Education are highlighted on the next page.

Learners will

- **demonstrate a critical understanding of how South African society has changed and developed**
- **demonstrate a critical understanding of patterns of social development**
- **participate actively in promoting a just, democratic and equitable society**
- **make sound judgements about the development, utilisation and management of resources**
- **critically understand the role of technology in social development**
- **demonstrate an understanding of interrelationships between society and the natural environment**
- **address social and environmental issues in order to promote development and social justice**
- **analyse forms and process of organizations**
- **use a range of skills and techniques in the Human and Social Science context**

4.4.1.4 CONCLUSION

There is general agreement that our workforce and society in general lacks relevant skills at all levels. This is partly because the apartheid educational system encouraged people of all races to obtain information without questioning it and to repeat this information on demand. In the work place people were often promoted depending on the number of years of service or after obtaining paper qualifications that were not related to their job competence. The critical outcomes which underpin the new approach aim to ensure that all learners will be well-equipped to play a responsible and meaningful role in their workplace and in society as a whole. **An example of an OBE-based lesson is done for the educator using an environmental problem: *Pollution*.**

4.4.2 TEACHING A LESSON USING THE NEW APPROACH

LEARNING AREA

HUMAN AND SOCIAL

	SCIENCE
SCHOOL PHASE	SENIOR PRIMARY (GRADES 4, 5 AND 6) [INTERMEDIATE PHASE]
UNIT OF LEARNING	POLLUTION

[UNIT: ENVIRONMENTAL EDUCATION]

4.4.2.1 POSSIBLE SPECIFIC OUTCOMES:

- * (S06) Demonstrate and understanding of interrelationships between society and the natural environment.
- * (S07) Address social and environmental issues in order to promote development and social justice
- * (S09) Use a range of skills and techniques in the human and social sciences context

This demonstration lesson on pollution will emphasize the attainment of specific outcomes number 06 as stated above

4.4.2.2 SUGGESTED LEARNER ACTIVITIES:

- 1 Take learners on planned walkabouts through the informal trading areas of the Central Business District (e.g. fresh produce market stalls, bus/taxi rank). Such a field trip has several advantages. Learners can observe for themselves how

pollution impacts on the life of the community e.g. Blocking of storm water drains and gutters, fly infestation, breeding of mosquitoes, unpleasant smells which can lead to health hazards and diseases such as typhoid, dysentery, malaria. Prior to the trip, it is necessary to design a carefully planned worksheet which will easily guide the learners to obtain information through self-discovery. In addition learners should be encouraged to carry along pen and paper in order to record additional observations and experiences. It is advisable to divide learners into small groups (\pm 4 learners) in order to foster teamwork, communication, discussion and sharing of ideas. This will facilitate the attainment of critical outcomes.

On returning to the classroom, armed with “on-site” hands on experience, the learners must be guided and supported by the educator to process the relevant information through a series of well-planned tasks.

Below are listed some useful, interesting and challenging classroom activities: report back by each group

- analysis and classification of information (e.g. types of pollution, most polluted sectors of the area visited etc.)
- completion of follow-up questionnaire by individual learners.
- preparing and designing charts and posters
- drawing of a simple sketch-map in order to grasp concepts such as distance, size, direction
- compilation of a scrapbook (pictures, articles from media resources, sketches)

Learners will ultimately draw from the relevant verses of the Quran and Hadith. The Islamic Studies subject educator will assist in the interpretation of the verses.

4.4.2.3 PERFORMANCE OUTCOMES:

This relates to what knowledge and skills each learner is capable of demonstrating in this specific unit of learning. These outcomes are directly related to all the activities that the learners were involved in.

Some of the resultant performance outcomes would be:

- observation and recording skills
- measurement skills
- research skills
- drawing and sketching skills
- time and management skills
- problem solving skills
- group skills (teamwork)
- questioning skills (having and inquiring mind)
- showing initiative and resourcefulness

4.4.2.4 CONCLUDING REMARKS

- Bear in mind that it will not always be possible to complete a unit of learning (e.g. Pollution) within a single period. The unit of learning may even extend over a week or two since OBE allows for such flexibility.
- Also note that it will not be possible to achieve all envisaged outcomes in one unit of learning since it is not practical to include all possible forms of assessment/evaluation for each unit of learning. However, ensure that you cover a whole range of activities for assessment by the time all the units of learning are completed for the year.
- Remember to select resources wisely to suit the activities planned so that the appropriate outcomes are effectively attained.

4.4.2.5 INTEGRATED LEARNING IN ENVIRONMENTAL EDUCATION

The integration of knowledge is one of the key principles of the new curriculum. A learning activity (e.g. Pollution) need not be confined to a single **LEARNING AREA**, but can cut across many **LEARNER AREAS** (e.g. learning activity on Pollution can be accommodated under the following **LEARNING AREAS**)

Table 5: Examples of integrated learning activities

LEARNING AREA	EXAMPLE OF ACTIVITY
Human and Social Science	Investigate effect of litter in an informal trading area of a township.
Communication, literacy and Language Learning	Write a letter for the Health Department Of your Local Municipality complaining about the issue of refuse pollution
Life orientation	Debating the causes and effects of a polluted environment.
Arts and Culture environment	Promoting an awareness of a clean and healthy environment through paintings, murals, drama and music
Islamic Studies	Look at the various Ahadith and Quranic ayaat which teach Muslims to look after their personal environments and in which hygiene is emphasised.

It is clear from the above how a thematic approach linking several **LEARNING AREAS** allows for a more information and holistic approach to learning. In the following Instructional Development Plan, a new approach is taken in facilitating educationally sound lessons. No classroom practice can be perfect, but proper planning is the key to good classroom practice.

ENVIRONMENTAL EDUCATION INSTRUCTIONAL DEVELOPMENT
PROGRAMME

Step 1: ALL ABOUT THE CHILD

Identify the nature of the learners at the onset of instruction

.....
.....
.....

State target or problem areas confronting the learners at the onset of instruction.

.....
.....
.....

Step 2: SUBJECT MATTER

State the central objective to be achieved by learners as a result of instruction.

.....
.....

List Supporting or enabling objectives

- a.
- b.
- c.
- d.

Step 3: OUTCOMES [VALUES, SKILLS, KNOWLEDGE, ATTITUDES]

Note anticipated, observation learner-performance outcomes.

- a.
- b.
- c.
- d.

Step 4: MEDIA USAGE

Select specific learning materials to be used.

- a.
- b.
- c.
- d.

Step 5: TEACHING STYLE AND METHOD OF PRESENTATION

Decide what instructional strategies would be most appropriate

- a.
- b.
- c.
- d.

Step 6: SELF-EVALUATION

Evaluate your teaching materials and strategies by determining the presence or absence of desired outcomes that were noted previously in Step3.

- a.
- b.
- c.
- d.

Step 7: MONITORING AND FEEDBACK/ADJUSTMENT

Make any necessary revisions in your instructional plan.

- a.
- b.
- c.
- d.

[Original Instructional Development plan devised and designed by the author]

The Instructional Development Plan is novel in the following respects:

- There is scope to find out more about the learners you are teaching (whether they are mixed ability, learner restrained, rural, closed economy, vicarious learners or gifted)
- There is latitude for better classroom practice based on the premise that the teacher is more aware of enabling objectives before proceeding with new subject matter eg. The section on pollution deals with acid rain. To understand acid rain, learners should have background knowledge of how rain forms, hygroscopic nuclei and the like.
- Incorporates educationally sound use of relevant media.
- Takes into account the type of lesson eg expository (chalk and talk), group work, fieldwork, self-discovery, project directed.

- This IDP is responsive as it allows for monitoring, feedback and adjustment for future lessons.

4.5 CONDUCTING AN ENVIRONMENTAL AUDIT IN SOUTH AFRICAN ISLAMIC SCHOOLS AND COMMUNITIES

An *Environmental Audit* is similar to a commercial accounting audit of one's assets and liabilities. In this case an account of the assets and liabilities are restricted to the environment. The flow chart below will enhance one's understanding of an environmental audit.

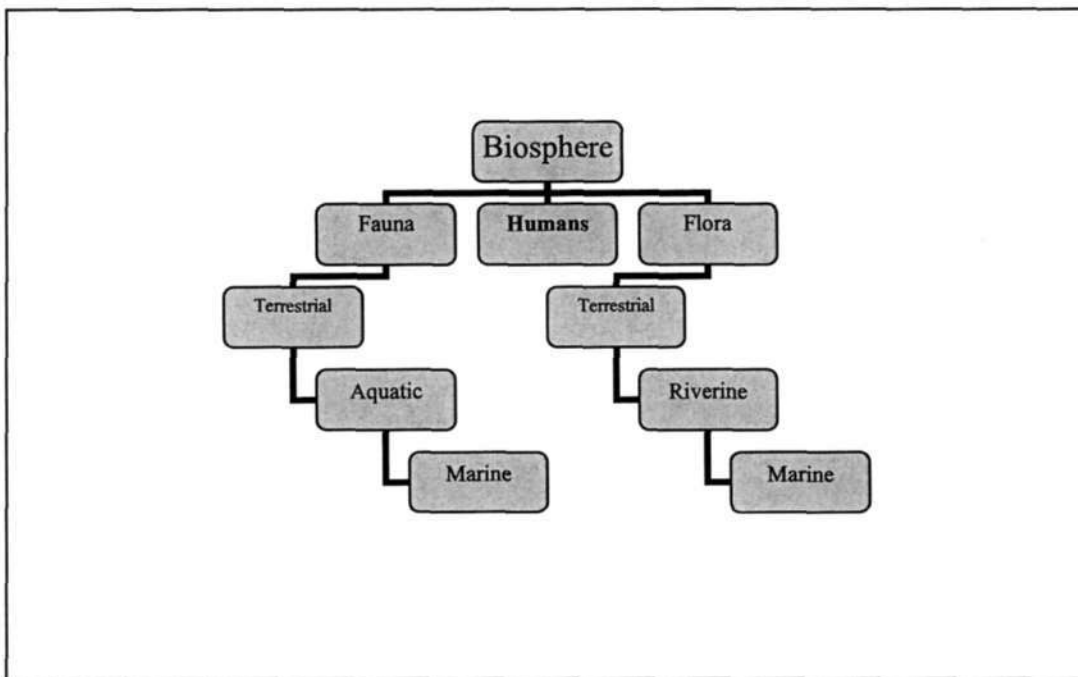


Figure 9: Interactive elements in an environmental audit

Fauna (animal life) and Flora (plant life) exist in a relationship with humans in particular ecological settings, eg, in a school milieu or an urban setting (park, open space, seaside).

Fauna is made up of intricate, complex animal communities which exist in the form of **food chains** or a series of inter-connected food chains called a **food web**. This includes earthworms, insect life (bees, moths, dragonfly), rodents, reptiles, arachnids (spiders). Flora (or plant communities) can consist of producers like grass, trees, flowers,

legumes. These exist in the **BIOSPHERE** which is found within the earth's enveloping atmosphere. The biosphere is the area (includes the hydrosphere, atmosphere and lithosphere) which comprises living organisms.

Fauna and flora may exist in the following ecological settings:

- Terrestrial (on land- lithosphere)
- Aquatic/ Marine (in oceans, rivers, lakes, dams - hydrosphere)
- Atmosphere (high up in mountain spaces)

Educators at any Islamic school can select the ecological setting and conduct an environmental audit. Every piece of the school land is mapped. The contours or nature of the slope of the land can be obtained from the local municipality or the school plans.

This map can be drawn to scale. The interesting part of the entire exercise is that:

- The school will have an environmental audit
- The school (in its microcosm) will be used for fieldwork
- The school's ecological setting (there may be a river nearby or the ocean) can be used as training ground for environmental education. This exercise can be a collective, shared project which can be done at no cost to the School's Board of Governors. Table 3 indicates how the audit can be implemented. The process is action-research based and is an interactive, collective way of getting the entire school population and stakeholders involved in the audit.

The audit also allows for the school to make comparative notes over time in respect of flora, fauna and abiotic elements which may be adversely affected. For example, if there is an invasion at some point by alien plants, then this audit can timeously assist in the eradication of perturbations which can disrupt or create disequilibrium within the system.

The similar audit can be done for madressas (afternoon Islamic classes), Darul Uloom (centres where Muslim priests are trained), mosque complexes as well as small communities. Community projects of this nature can be deemed as *empowerment*

projects and qualify for municipal grants especially if they are conducted in open spaces (green belts) and in designated municipal parks and gardens. The Muslim communities in South Africa are urged to take advantage of this rare opportunity in conducting an *environmental audit*.

Table 6: An Example of a School Environmental Audit

NO	ENVIRONMENTAL ITEM	NATURE	COMMENTS
1	FOLIAGE	Trees, ground cover, shrubs, annuals, fruit trees: full count of all plant life must be documented with classes drawing the various types as Natural Science or Arts and Culture Projects.	Identify each item eg mark every tree with its botanical name, check trunk rings for proper age, check for growth and health status. Check for parasitic elements and other life which is dependent on tree for survival eg squirrels. Are there any human disturbances. Check for effects of trampling on grass embankments and on verges.
2	INSECT LIFE	Bees, spiders, roaches, ants, butterflies: full diurnal and nocturnal counts.	Check for their habitats, niches and their populations. Check and mark their movements.
3	ANIMAL LIFE	Rodents, earthworms, squirrels, cats,	Check for their niches, r hibernation patterns, populations, organizational structure
4	BIRD LIFE	Pigeons, sparrows, haadida and the like: full count: seasonally	Note migratory patterns and numbers.
5	ABIOTIC HEAD COUNT	Check for rock crevices, drain pipes, underground networks and filaments, soil and rock structure	This is important as the abiotic elements support plant and animal life.

4.6 THE IMPORTANCE OF FIELDWORK IN ENVIRONMENTAL EDUCATION TO ISLAMIC SCHOOLS: THE ZIMBALI EXPERIENCE: NORTH COAST OF KWAZULU NATAL: SOUTH AFRICA

Learners acquire the following skills through fieldwork:

- Observation skills which teach learners to observe critically and scientifically
- Research skills which relate to the use of reference texts.
- Recording skills which teach learners to accurately record information in both note form as well in the form of diagrams, maps and sketches
- Measuring skills which teach learners to take accurate measurements of phenomena such as distance, angles, numbers and size.
- Drawing and sketching skills, especially field-sketching techniques
- Statistical representation skills related to graphs, bar diagrams and charts
- Management skills, including the management of time and energy
- Problem solving skills whereby learners are trained to examine issues critically and to work towards solutions of problems.
- Group skills/ dynamics (working as a team)
- Questioning skills (developing an inquiring mind)

Islamic schools will benefit from conducting outdoor fieldtrips which stimulate thinking and make the natural environment a *living laboratory*. Fieldtrips also become points of praxis for researching the various environmental aspects covered in the verses of the Holy Quran. The verses of the Quran on *Ants, Bees, Spiders, the oceans, rivers, animal kingdoms, inter-dependence of animals and plants, the plant kingdom, the hydrological cycle* and other environmental aspects can be observed and researched first hand. An example of an ecological fieldtrip is given below. The template can be used as a basis for all other excursions.

4.6.1 *The Zimbali Environmental Education Experience*

This excursion can be adapted to suit all ages, depending on the criteria and aspects observed:

Table 7: Example of aspects covered in an environmental field trip

AGE CATEGORY	GRADES/PHASE	ASPECTS TO BE COVERED
5-6	PRE-SCHOOLERS: GRADE 0	Weather, sand, waves, plants, therapeutic play with sand and supervised water play (little rock pools), observation of fish and plant life in rock pools, peer-peer development, socialization
7-9	FOUNDATION : GRADES 1-3	Play activities in sand and water, team work, sand castles, figures, socialization activities, colours, counting, sand dune play, walking (strengthening LARGE MUSCLES- through catching and throwing activities), small muscle development, wind.
10-12	INTERMEDIATE GRADES 4-6	Natural Science and HSS based exploratory activities: Locomotion, Characteristics and life cycle of Frog, Crab, and Fish. Introduction to marine ecology, weather patterns, temperature.
13-15	GRADE 7-9 SENIOR PHASE	Weather and climate: temperature, pressure, instruments of measurement. Introduction to ecology: the relationship between living/non-living elements. World of waves: rotation Translucence quality of water Tides and the moon's phases
16-18	GRADES 10-12 FURTHER EDUCATION AND TRAINING PHASE	Ecosystems Biotic/abiotic elements Coriolis force Dune rehabilitation Environmental Equilibrium Marine ecosystems Coastline recession 1013,25 mb pressure contour Sustainable development Wild life extinction

The above fieldtrip is best suited for high school learners from Grades 7-11. The duration of the trip is an entire day as the hike takes place from Port Zimbali (starts at 07:00) and the pick up point is in Tinley Manor (upper North Coast) and the time of pick-up is around 15:00. Educators have to consult the *tide chart* because the Umvoti

River mouth has to be crossed at low tide. The best advisable time for the fieldtrip will be during neap tide (extraordinary low tide).

The fieldtrip can also inculcate a litter campaign where the entire learner population can collect cans and other litter during the trip, place the litter separately in bin bags for recycling purposes. The educator has to undertake a *preliminary visit* and ensure that proper *Pre-planning* takes place. Each learner should ideally be given a worksheet covering the following aspects before the trip so that learners can undertake prior research on conceptual areas. Relevant books need to be placed in the reserve section in the school's Library Resource Centre to cover conceptual textual analysis.

- General rules of the trip
- The anticipated outcomes
- Impact of humans on the environment (marine ecosystem)- pollution, destruction of habitats due to human invasion, over-trampling of dune vegetation, The 4X4 issue, camping, shore-line ecosystems
- A map of the area with the route and the topographical layout.
- Marine ecology investigation (plant and animal life) : rock pools, sand dunes, shoreline, sub-tropical beach vegetation
- Drawing and mapping exercises
- Ethical essays: use of 4X4s, use of sand dunes for aluminium mining, What the Quran and Hadith informs humans about the use/abuse of natural resources.
- The programme for the day
- Requirements: lunch pack, clothing, gloves, bin bags, nets

The following stages have to be implemented during the fieldwork process:

- The Preliminary Visit to the site by the organising educators
- The Pre-planning phase (costing, hiring of buses)
- The Fieldtrip proper
- Post-Fieldtrip feedback
- Assessment Questions which appear in class test on the field trip

4.7 ENVIROMENTALLY INTERACTIVE ACTIVITIES FOR ISLAMIC SCHOOLS

Islamic schools can embark on the following interesting projects in their respective schools:

4.7.1 *Establishing a vegetable patch/garden: Grades 4-9*

This is a self-sustaining project. After obtaining the initial start-up capital (“seed” capital), learners in various grades are apportioned small tracts of land on the school campus. The garden patch has to be of standard doorframe size. Each grade has to adhere to strict rules of the “competition”. At the end of a prescribed period, judging takes place by external adjudicators to place grades in winning categories. Each grade must generate the following

- A proper business plan: this will be done as an Economic and Management Sciences (EMS) project.
- Simple soil profile showing horizons : Human and Social Sciences Project
- A seasonal progress chart to be pasted on the school’s environmental education notice board showing progress from planting, seedlings, growth yardsticks to harvesting: can be done as an MLMMS project (in South Africa Mathematics at the Grades 4-9 level is called Mathematical Literacy, Mathematics and Mathematical Sciences.- educator can show learners the idea of axes and graphs (plotting, interpolation). The Natural Science educator can be actively involved in the growth stage. Learners to see correlation between plant growth factors (sunlight, aspect, water, soil quality) and growth.
- Sales per volume and profits to be done.
- The hypothesis: “How many people can this garden patch sustain and for how long?” will be used as the determining factor whilst judging. Quality of vegetables will also count towards the final scoring.

- Learners who wish to establish rose or anthurium gardens may do so as a separate venture. This project is solely vegetable-focussed.

4.7.2 *Greening Projects*

Islamic schools and other communities can also be involved in planting (greening) projects. Schools need to undertake a soil, aspect (direction in which a slope faces in relation to the sun), wind, humidity, pedestrian investigation before embarking on such a project. It is advisable to plant cacti or heavy scrub vegetation where there are opportunities for vandals to scale over fences and the like. Ground cover can be effectively used in schools where there is little or no sunlight. The moist area under the groundcover can promote organic activity and render poor soil fertile (back to its original state) for future use.

Other greening projects may include:

- Establishing “peace” gardens where learners sit and study in green belts
- Planting trees which will provide shade or which may provide ecological sanctuaries to birds eg bottlebrush trees are excellent points of attraction for most bird types.
- Marking trees and following their growth patterns.

4.7.3 Other aesthetically appealing environmental education projects for Islamic schools

The following details are not intended to be prescriptive in any way. However, a comprehensive environmental education *policy* can assist the school in instilling *values* for life in the minds of learners. These projects and policies can assist the school in producing future leaders who can assist in creating a sustainable society.

- Ensure that the school has a comprehensive environmental policy including merits and de-merits for those learners who care and those who do not care for the environment.
- Ensure that the school has a designated environment officer and the allocation on his/her time-table should include administration periods for facilitating this area of concern. This officer must attend all NGO or GO workshops and cascade information to the rest of the staff and learners. A quarterly report should be presented to the Board of Governors.
- Ensure that the curriculum caters for the integration of environmental education in all phases at different levels of difficulty.
- Ensure that the school is environment-friendly: assemblies, notice boards and an ethos which promotes environmental awareness.
- An environmental mission/vision statement must be noticeable at the school's entrance.
- Quranic ayaat and Ahadith must be boldly promoted on the school notice boards and in the car park where parents leave and fetch their children.
- Establish a *petting zoo* for the Foundation Phase and the Early Childhood Development (ECD) phase with rabbits, day old chicks, bantam chicks and the like. This has a calming, therapeutic influence of childhood development. Research has shown that learning restrained children may find the petting zoo most beneficial especially as it has an Occupationally Therapeutic effect.
- The library must have adequate books on animals, plants, insects, and nature and subscribe to magazines such as Farmer's Weekly, Home and Garden, National Geographic, Getaway.

- The School's Annual Budget should incorporate all the above aspects.
- Class lessons should try as much as possible to incorporate environmental topics, eg, the poem *Leisure* by W. H. Davies can be analysed to this effect.
- Words related to the environment should be translated into Arabic and the local mother tongue, eg, into isi-Zulu and pasted at relevant points.
- Classroom practice must integrate Quran and Sunnah into environmental education topics.
- Environmental Education projects should incentivise learners
- By presenting them with awards, badges, tokens, electing special environmental officers/scouts/prefects and awarding special school colours to these learners who excel in environmental education projects.
- Learners should be encouraged to attend courses held by the local Parks Board. The Kwazulu Parks Board holds special courses (weekend stay over) to interested learners relating to a host of environmental issues from botanical variations of plants; biodiversity of plant and animal life; bird life; migratory patterns of birds and insects; endangered species of animal and plant life; germination
- Learners should be encouraged to undertake overnight and day field trips to sharpen their skills as well as gain a better understanding of the environment and environmental issues.

4.7.4 *The Islamic School and the local Community*

Any school is an indelible part of its community. Mutual projects involving the sustainable development of the environment not only fosters unity between the school and community but also creates a catalyst or a nucleus for sustainable development. Annexure C shows an excellent example of this partnership between the WWF and this private individual who sacrificed his career in enhancing EE projects in Malaysia.

Schools can get involved with the private business sector and the local parent community as well as the wider public in:

- Hosting fund raising projects to develop ecological sanctuaries or build an aviary. This project should eventually be self-funding and be open to the public. Many schools take their Foundation Phase learners on a visit to an Animal farm, but how many schools who are near rural farmlands actually consider developing their own theme parks?
- Assisting the Central Business District in “anti-litter cleaning up” as well as other recycling projects. The local river banks can be cleaned as a weekend community cum school project. Once the school gains the confidence of the community, there will be no need for Islamic schools to be concerned about falling enrolment numbers. Parents and the community alike will have renewed confidence in the school as a service provider and a community-linked entity. There has to be linkages developed and maintained between the school and the community eg Arbor Day should be a communal event with poster competitions and “fun-runs” highlighting the designated week as a community effort. Any school with strong communal links is bound to enjoy strong support. Other projects could include: eradication of alien plants, best garden competition, “keep our parks clean” campaign, urban renewal projects in inner city regions, greening street boulevards.
- Local garages (filling stations) who are affiliated to their parent petroleum companies are always striving to be environment-friendly. There is ample scope to foster and further this association with local petrol stations.

4.7.5 *Articulation of the 1996 AMS Conference vision by Dr Omar Kasule and other delegates in Cape Town (circa September 1996)*

International educationists are well aware of the deliberations which ensued at the above conference. The theme: *Islamisation of Knowledge* made educators aware of the chasm that existed at the educational chalk face. Islamisation cannot be oversimplified as simply taking Quranic ayaat and Ahaadith and superimposing them into lessons. Islamisation of knowledge is a deliberate, planned effort to research and develop the content of the Quran for the explanation of concepts in the different learning areas. Conceptual “loading” of key subject matter forms the pivotal point of Islamisation.

Of pertinence to the propagation of Environmental Education is the fact (textual analysis in Chapter two) that:

- The Quran is inundated with information which qualifies humans as being responsible for the protection of the **natural environment**.
- This has also been stressed by the Prophet Muhammad (PBUH) in his teachings (Al Sunnah- Hadith)
- The school and Islamic institutions are obliged to follow these injunctions because educators are *inter alia* elevated to an important status in the Quran:

Surah Jumuah verse 5 highlights the role of Prophets as educators and Hadith^{ix} in Sunan ibn Majah points:

“Once the Prophet (PBUH) entered the sacred mosque in Madinah and saw two groups of people: one was reading the Quran and the other learning and teaching. He, the Prophet of God (PBUH) said: “Both groups are good, the first group He’ll grant them or withhold from them, the second group is learning and teaching and I have been sent as a TEACHER, then He (the Prophet [PBUH]) sat with the second group.

- Environmental Education is a part of one’s Tarbiyah (Reformation)

^{ix} Karim, F. Volume 1, page 357

4.7.6 *The role of the Association of Muslim Schools (AMS) and the Islamic Studies Standards Generating Body (SGB) in the development of Environmental Education*

The Association of Muslim Schools (AMS) can play a pivotal role in developing and sustaining Environmental Education as an integral component of the Islamic school curriculum by:

- Hosting mini-conferences on the topic
- Hosting EE presenters at the quarterly Principals' Forum
- Reviewing the curriculum of all Islamic schools when implementing the Whole School Evaluation (WSE) project which gets underway in 2005. EE should be one of the criteria on the Self-Monitoring document for WSE.
- Allowing for more discussion on the integration of Quran in classroom practice. There must be practical workbooks published on the topic of Environmental Education for educators
- Since the National AMS office opens in Pretoria in 2005, part of the mandate of the AMS should be to ensure that Environmental Education is a part of the curriculum at Islamic schools
- Reviewing the research found in this thesis and make valuable inputs for future EE growth.
- AMS needs to develop a "Green School" Programme where Islamic schools (individuals, classes, and the parent association) participate in environment-related projects and these add up to a school being designated as bronze, silver, gold, green, jade, emerald or earth schools.
- Get the private sector involved in re-cycling projects.

The Standards Generating Body for Islamic Studies (SGB) needs to pay attention to:

- The inclusion of EE in the Units Standards
- The formulation of EE as a part of Islamic Studies
- EE must be included in the Assessment Standards
- A special task team must be appointed to look into a comprehensive EE syllabus which allows for articulation of the Quran into classroom lessons.

- The SGB for Islamic Studies should seriously think of a specially accredited course by SAQA (South African Qualifications Authority) which allows for the training of educators for EE in Islamic schools.
- A re-look into classroom practice at Islamic schools.

4.8 A COMPARATIVE STUDY OF THE DEVELOPMENT OF ENVIRONMENTAL EDUCATION IN CANADIAN AND AUSTRALIAN SCHOOLS

The paragraphs below present a comparative study of the EE situation in Canadian and Australian schools as a lesson for South African Islamic schools.

4.8.1 *Understanding Environmental Education: Teacher Thinking and Practice in Canadian elementary schools*

Paul Hart (33:1996) provides an overview of the situation in Canadian schools. His study discusses the nature of the environment education-related thought and practices of educators who worked in Canadian elementary (primary schools) with learners between the ages of 5 and thirteen

He aptly states that environmental Education provides a new narrative to the debate on the purpose of schooling. EE attends to the social and emotional development of learner's needs. Education must be capable of guiding and supporting young peoples' experience of participation and citizenship. EE provides this narrative because it has the extraordinary potential of the story of humans being stewards of the "Spaceship Earth." Environmental Education has this power to bind people together because it makes clear the interdependence of humans and of all living things on this small planet: earth.

Paul Hart in his study of EE in Canada provides hope to all educators who look for the panacea to develop capacity in our learners, to mould and to harness the inherent potential of South African Muslim learners at Islamic schools and who face insurmountable odds at the hands of a highly commercialised and "globalisation-friendly" economy. Very little out there in the malls and entertainment complexes tell

our children to protect the environment. Nothing out there tells them what Allah (divine law) has ordained about the environment for them.

This section of the thesis encourages educators to “learn to change”.

Despite our differences in geographical, social and demographic contexts, environmental educators in North America and those in South Africa share some basic ideas about the need for a change in education:

- That educators exert a powerful influence on our children’s thinking
- That we all need to work towards building an ethic of environmental care and responsibility into educational systems
- This requires a change in our thinking about our educational purposes and practices.

These are some of his interesting findings:

1. In the 1990’s most Canadian school children were exposed to some form of environment-related activity.
2. He based his findings on looking at what educators thought about EE by basing their inquiry on the view of knowledge as the interplay between personal practical theories, and as a complex of social, cultural and educational contexts.
3. In the lower grades, educators integrate EE into all aspects of educational programmes. For example, stories about endangered species and about the rainforest are commonplace. The importance of all living creatures is emphasised. If a child brings an insect to school, educators use this as a teachable moment and the importance of this insect in nature occupies centre stage.
4. In the lower grades Environmental Clubs are common. Activities include raising money to send to the WWF, adopting an animal at the local zoo, learners visit a tree nursery, buy trees and plant these in the school yard, going on hikes up the nearby hill and looking at the plants and animals along the way, art activities with environmental themes, inviting guest speakers as frequently as possible.
5. Schools participate in the SEEDS (Society, Energy and Environment development series) Project.

6. There are examples from schools in poorer areas where parents are not easily motivated
 - Try to get learners out of the school into the community to work on environmental projects
 - Attempt projects wherein the learners get an opportunity to better their citizenship skills.
 - Empathy and responsibility are concepts educators need to instil in these learners who come from poorer communities as these are not concepts learners come readily with to school.
7. Environmental education has brought tremendous satisfaction and challenges to educators. It has opened doors, given educators insights into politics as it incorporates all systems.
8. Environmental education involves a community dealing with change. Therefore EE allows learners to learn experientially, it also allows for learners to make mistakes and to learn from these mistakes.
9. In the Figure labelled 7 one notices that a simple exercise like planting a garden achieves of educational outcomes:

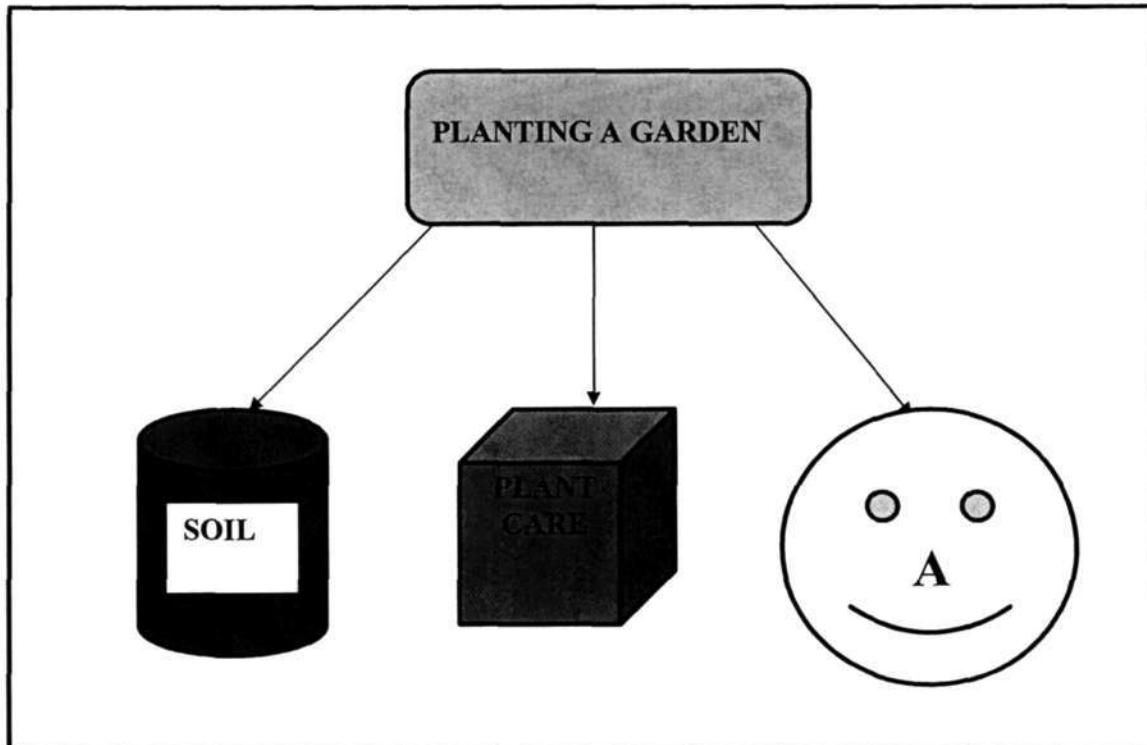


Figure 10: Planting a garden and the resultant educational outcomes

Skills: the exercise involves physical skills of planting and watering the garden.

Knowledge: This involves knowing about soil properties and plant care.

Attitudes: The exercise will involve attitudes of being positive and anticipating results. Learners learn the art of being patient. Learners will rejoice when their plants grow and become sad when a plant dies. In other words, learners prepare for the real world, learning from their mistakes: some plants live while others die (refer to A in Figure 6).

Values: Values of learning from one's mistakes and of empathy are exercised. Learning to problem solve and to think critically are pivotal to the exercise.

Infusion of Quran and Sunnah

The garden planting exercise gives the educator in an Islamic school in South Africa the ideal opportunity to discuss relevant verses of the Quran which reflect the importance of the sun, air and water to plants; the water cycle (rain), food, Allah as Sustainer and Protector and so forth.

10. In one instance, an example was cited from a school on a peninsula almost surrounded by ocean like the Western Cape in South Africa. The educator in question loved science, literature and art (although these were not her special subjects at university). Her favourite environmental topic is “wetlands.” So, this educator takes her learners on bicycle trips on Friday afternoons to the wetlands to learn more about the environment and how things work in nature.
11. Learners especially in the higher grades learnt about human rights issues eg. after reading a novel about homeless people, two girls inquired about homeless people in their community and eventually initiated a school-wide food drive for a food bank to be created and soup kitchens were established in school.
12. Learners developed their own songs and drama around environmental issues eg during a Salmon Project on World Environment Day, the learners and educators developed their own songs as they released Salmon fry into the creek
13. Some examples of environmental education projects are given below:
 - Educators model certain behaviour such as recycling, schoolyard improvement or litter control.
 - Encouraging families to provide their children with litter-free lunches (everything must be re-usable or recyclable).
 - Getting the entire school to get involved in pragmatic projects eg getting the entire school in a study of the stream behind the school- building a model to illustrate the variables affecting water quality.

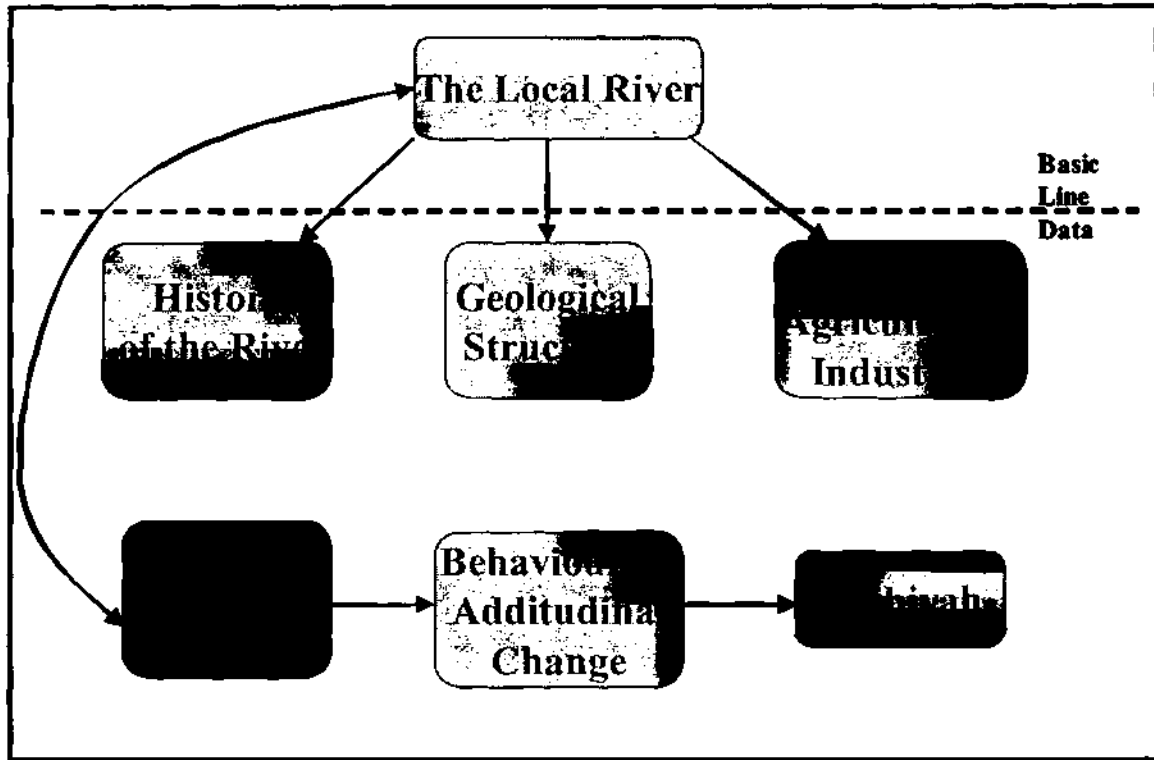


Figure 11: An educational experience

14. Other higher grades studied the following: the impact of humans on the environment through the ages; compared the daily consumption patterns of people, researched and debated different perspectives on local environmental issues and then took appropriate action.
15. Experiences also involved getting learners to become involved in lobbying, writing to the local newspaper about environmental issues and writing for grants for their environment projects to private companies.
16. Learners exercise their individual rights in selecting where they want a particular tree to be planted so that they feel a sense of **responsibility**.
17. Writing poetry was one way in which learners' senses were opened to the environment. Poetry provides the opportunity for learners to make a personal response – to respond to the feel, and smell and touch of their natural surroundings. Hopefully, this leads to more respect for the environment and fosters subsequent caring behaviours.

Figure 11 typically illustrates the wholesome educational benefits of using aspects related to the environment in actual lessons. For example, if there is a little creek, spruit or river near the school, a Grade 9 class can get involved in the following interactive, outcomes-driven activities:

- a. **The dotted line represents basic line data.** This will include objective aspects of the river like its name, length, width, water depth and the like.
- b. The HSS educator may discuss the history of the river eg was the river the primary reason for the location of the town? This is called a *site* factor.
- c. The HSS educator can also discuss the geological structure of the river: underlying rock structure, water table, base flow. Concepts related to rock permeability, infiltration capacity and drainage density come to mind.
- d. The EMS educator may discuss the value of the river to the primary, secondary and tertiary economic sectors. Essays on the importance of the river to the local farmers may be written in the languages.
- e. There also exists ample opportunities to infuse Quranic ayāt into lessons by looking at the river as a mode of transportation and sustenance provided by Allah. The lower grades may be told the story of the Prophet Moses and the “basket” along the river Nile.

The case study of Environmental Education in Canada provides ample perspectives for South African Islamic schools to improve their value-based educational system by introducing Environmental Education as an integral part of the curriculum.

4.8.2 A COMPARATIVE STUDY OF THE OPPORTUNITIES AND CONSTRAINTS FACING ENVIRONMENTAL EDUCATION PRACTITIONERS IN AUSTRALIA

Ian Robottom (44:1996) analyses Environmental Education within the context of Australian schools. Australia has a national curriculum (like the RNCS^{hi}).

Each of the following learning areas has national statements and curriculum profiles: Arts, English, Health and Physical Education, Languages other than English, Mathematics, Science, technology and Studies of Society and Environment.

The national statements of Studies of Society and Environment (SOCE) is the learning area most identifiable with Environmental Education

The SOCE statement is constructed around six key organisers or strands:

The five conceptual strands are [1] *time, continuity and change*; [2] *place and space*; [3] *culture*; [4] *resources*; and [5] *natural and social systems*.

The process strand is *investigation, communication participation*.

Science is not given prominence as the point of departure for SOCE. Values play a more prominent role in environmental issues.

He makes the following observations

1. The National Curriculum operates from a largely teacher-, school- and community-based form of curriculum development to a centrally organised activity.
2. Environmental Education is perceived as an approach close to social education and not as a close relation of science education. EE deliberately looks beyond empirical questions. EE is based on implicating questions concerning social values.

^{hi} Revised national Curriculum Statement: this refers to the revised Outcomes based Education Curriculum in South Africa.

3. Besides nationally-driven curriculum initiatives in EE, there is an Australian tradition of locally-driven initiatives in community-based, action oriented environmental education in which curriculum content emerges from the school's enquiries. Rather than being provided as text in EE, what is learnt is derived from involvement in particular environmental and social contexts. This is interesting for South African Muslims as Islamic schools can base their EE curriculum on local enquiry eg. Durban schools can use the following environmental issues as their EE basis for content:
 - Sand dune degradation and recession along the Blue Lagoon area.
 - Environmental Impact Assessments of holiday makers on the Durban beachfront.
 - The effects of air pollution on upper respiratory organs in the Merebank area.
 - A situation analysis of the La Mercy Mangrove Swamps.
 - Air and noise pollution levels at the Durban International Airport and its adverse effects on the residents of Clairwood.
 - Urban renewal proposals for transition zones found in the vicinity of the corner of Point and Smith Streets.
 - The levels of lead found in inner city school grounds
 - The environmental impact of the rapid development of town house complexes in the Ballito area.
 - Proposals for the resuscitation and introduction of open green belts in the Overport urban area.
4. There are conflicts in policy concerning EE at national and local levels. Whilst the national Australian Council for Education is working towards a national curriculum, the Victorian Education Ministry recommends that schools should devise their own policies and programmes for EE.
5. The new curriculum stresses encouraged relationships among educators, learners, subject matter and settings.
6. There are many EE courses offered especially in distance education mode so that rural educators can train for EE by correspondence. There is national recognition that EE takes different shapes and forms in different contexts and locations.

7. Case studies are used as a form of participatory process in the DE course where educators are encouraged to tell their own environmental story by inviting educators to make, select and sequence 35 visuals and each visual was to have a caption and a voice-over. Lecturers visited these sites, interviewing parents, educators and principals, collecting samples of learners' work, gathering information, school EE policies and the like. Lecturers prepared a five page report on the presentation.
8. The EE distance education package can be studied by single educators or taken in groups.
9. Drama is used to explore issues of power and domination among educators, learners and environments within the setting of a fairly uniform middle class city.
10. Unlike traditional science education and mathematics education, EE (perhaps like social education, health education) involves the educator in a range of professional dilemmas associated with the philosophical nature of substantive issues being studied. eg in South Africa learners in schools can be given ethical projects:
 - o How will the removal of informal traders from the Victoria Street, Warwick Avenue area affect their fight for survival?
 - o Will the removal of the Ntchaweni squatter settlement (outside KwaDukuza along the North Coast of Kwazulu Natal) destroy their sense of community and cohesiveness?
11. There are strong links with educators and community environmental groups when schools become involved in environmental projects.

4.9 CONCLUDING REMARKS

In this chapter a conscientious effort was made to propose ways and means of cajoling the reader into believing that Environmental Education has potential in strengthening the Muslim Ummah (Nation). The various projects, models and proposals offer pragmatic solutions into the development of Environmental Education in mainstream South African society. It is understood that mosques (via the leadership of the Jamiats), Islamic newspapers and Islamic community radio stations will offer more discourses on the topic of *Islam and the environment*. Environmental Education is affordable and feasible. All it takes is commitment and dedication from educators

The major thrust in this chapter was to *engage* educational institutions into debates whereby they can become the conduits for greater community participation. This nexus between the school and the community will create greater diffusion of ideas. This research has refuted the empiricist notion that the researcher is far removed from the problem. The author has to be practically involved in the development of Environmental Education.

One such suggestion is that a weekend retreat be organised for the key stakeholders from the Muslim population in South Africa: the Jamiats, AMS, industrialists, private sector representatives and the like. Participants need to see their roles in their institutions more clearly in terms of:

- Pledging to support EE projects by virtue of the fact that this has great potential in the social reformation of the Muslim community
- EE projects contribute to the country as a whole. Muslims, as a minority group can make a substantial difference in terms of this paradigm shift.
- There will be a personal philosophical commitment to the ideals of environmental education.
- There is great potential that EE has in the understanding and implementation of the Quran. The Quran will now be introduced as a practical model into homes, communities via schools and Islamic institutions.

All the proposals mean nothing if there is no commitment from major stakeholders of social transformation in South Africa: educators, Ulama and intellectuals alike must face the challenge squarely of assisting in the sustainable development of our natural resources.

On the international front, notable efforts are being made in Islamic countries to counteract the threats caused by *globalisation* on its natural resources. Of particular interest in our discussion is Dubai (a state in the United Arab Emirates).

The in-flight magazines on national airline carriers always give one an idea of what's buzzing or topical in that country. The *Emirates Airlines* in-flight magazine called *Open Skies* (circa September and October 2004) focuses on important environmental issues: the construction of the Southern hemisphere's largest telescope, adventure along the Silk Route, Birdlife in New Zealand, Abalone farming, Villages of Morocco, Italy's volatile islands, the planet Venus, park life in Tanzania, Flower power, Sinai Peninsula, Saving the Green Turtle, Endangered Rhinos, Wind as an alternate energy source, Scotland's West Highland Railway, Indonesia, the Antarctic and a special column is dedicated to *Eco News*.

In the Saudi Arabian in-flight magazine *Ahlan Wasahlan* significant space is devoted to environmental issues.

There is no better opportune time than the present moment for South African Muslim leaders to beckon to the call towards developing a sustainable society in the wake of *globalisation* which threatens our very fibre of existence. The only way in which this can be done is via the inculcation of Environmental ideals (care and love for the environment) through Environmental Education.

5 CONCLUSION

ISLAM AND THE ENVIRONMENT

***“He (Allah) sent among the unlettered a Rasul (Messenger)
from among them, reading to them his verses and cleansing
them and teaching them the Book (Quran) and Wisdom (Sunnah)”***

(Al Quran: Surah Jumuah Verse 2)

The verses of the Quran above qualify that the contents of the Quran are crucial to one's *Tarbiyah* (reformation). This in effect captures the essence of this thesis: to bring to the attention of the reader what Allah says in the Holy Quran about caring for the environment. This qualifies that Environmental Education, taught as a Prophetic Science is invaluable to the reformation of the Muslim community. It also becomes critical in our understanding that Islam is a way of life and extends beyond the five pillars of Zakaat, Haj, Salaah, Fasting and one's belief in the Oneness of Allah and His Last Messenger.

There is no doubt that part of every Muslim's belief (*Aqidah*) is the responsibility of caring for and protecting the environment. To ensure that Muslims in South Africa are not guilty of divine disobedience, it is necessary to emphasise here that Environmental Education (EE) projects will have to take more prominence in South African Muslim society.

Various strategies and techniques are normally used to effect environmental education processes. In some cases, it may be expedient to make use of the mass media in South Africa to inform the Muslim community. Local, national and international radio stations, newspapers and magazines are commonplace in Muslim communities.

Formal courses in environmental education may be offered in schools and universities. The School of Religion at the University of Kwazulu Natal and at the University of South Africa (UNISA) can offer as a part of the Islamic Studies module, aspects on *Islam and the Environment*.

Environmental workshops, direct communication strategies, displays on mosque bulletin boards and eco-tourism can also be employed to maximum benefit. Whatever form the educational process may take, it generally has an applied focus (eg littering,

use of water resources, smoking, reforestation) with the ultimate aim of enhancing the sustainability of ecosystems and consequently also the quality of human life.

Changes in the curriculum and mind sets of the Muslim community of South Africa concerning Environmental Education involves changing society through new programmes and resources, new teaching practices and new educational policies. The challenge to educators and the Muslim community alike is framed in terms of sustained and critical involvement in practical and political action. However, this kind of action involves close personal change. The nucleus for development of EE is rooted in the divine teachings of the Quran and Sunnah.

There is a need for South African Muslims to put into place internal policies which support and sustain Environmental Education. Elsewhere in the world (in the eighties) we find the well published Brundtland Commission report on *Our Common Future* and the *Canadian Green Plan (1987)*. An excellent breakthrough was made on the 14 December 2004 in Mexico when South Africa's department of Energy and Commission signed the Kyoto Agreement.

The Kyoto Agreement commits individual countries to pledge the limitation of carbon fuel emissions. It must be noted with concern that the United States of America did not as yet sign this accord.

Environmental Education moves away from rote learning. The emphasis in EE involves a study of whole systems, not just a garden, litter or vandalism at school. EE creates a dialogue about the whole system, raising questions about the way we do things. EE involves *social critique*. Globalisation has effectively destroyed physical resources and the will of the people because it is based on *mass consumerism*.

EE raises the question of why Muslims need to be more aware of caring for the environment than other religious groups do. This is based on the premise that the religion of Islam, in its basic tenets invokes the central concepts of *I'mār (Inhabitation)*, *Taskhīr (Subjection)* and *Khilāfah (Vicegerency)*.

EE, more than any other secular subject allows for this discussion. EE creates ongoing dialogue. There is very little questioning in schools so EE allows for questioning.

Schools are the windows of opportunity for Muslim children to learn more about the Creator, creation and why people need to respect nature. By focussing on environmental education, learners get an opportunity to observe natural phenomena and to question. A “wetland”, “marine coast” or a “forest” is a beautiful illustration of how all things are interconnected. Learners, via Environmental Education must learn to see “*spiritually*”.

To see the beauty in wildlife and plants is to create awe in learners. If children are centred in this understanding, they learn to see themselves as all interconnected, part of one another, as people who will stick up for one another, and who will not tolerate put downs.

To teach Environmental Education with the focus on Quran creates a sense of pride and trust in children. When children learn about the miracles of Allah and understand that each one of them is a miracle of Allah and to understand that and to see richness in others (creation in nature) is to enrich oneself.

Environmental education allows for children to pay close attention to detail. This sharpens observation skills and when children look for authenticity in plant and in nature, they grow up to become honest, uprighteous individuals themselves.

Environmental education is about respect, respecting life, love for one another, seeing the interconnectedness in everything (horizontally and vertically). It allows one to respect different cultures and to see clearly without prejudice. Whilst *globalisation* emphasises markets, supply, demand and production, Environmental Education neutralises this effect and brings people closer to their Creator. Environmental Education also focuses on human rights issues. At school level, one needs to move away from the pre-occupation that Islam preaches “going to the hellfire if your pants is below the ankles.” Islam deals with human rights issues: pollution levels, litter, water usage, droughts, killing of wildlife. This allows for lobbying and writing to your local member of parliament complaining about environmental issues of concern to you. EE also allows for people to start their own projects: recycling, greening and making these profitable communal ventures.

Environmental Education is an off-shoot of the theme *Islam and the Environment*. The concepts (Quran/ Environment and Environmental Education) are one and the same

thing. Environmental Education reinforces the teachings of the Quran and the school and mosque provides pivotal points of praxis for the articulation and implementation of the divine teachings found within the Quran.

Environmental Education gets the observer close to nature and in doing so, we learn:

- People have to be in nature to understand and appreciate it.
- Experiences in nature promote confidence.
- Experiences in nature promote communication
- Experiences in nature develop analytical skills and sharpen problem-solving skills.
- Environmental education promotes values as one gets closer to the Creator and one understands ones purpose on this earth.

Observation involves **research and development**. The Quran encourages **research and development** in the following Quranic verses where Allah emphasises the various creations: **Surah Kahf, verses 6-8, Surah al- Nahl, verses 66-67, Surah al-Imran, verse 190, Surah Al-Nahl verses 10-17, Surah Rum, verse 24.**

Research and reflection over Quran is expressly emphasised in *Surah al-Nisa* verse **82**.

The flowchart below (Figure 12) encapsulates that Environmental Education is all about ones basic education. Learners will be able to relate to what they learn in EE to other issues and make them better problem-solvers. Learners and the community can use their skills of observing and analysing, of looking at issues from many points of view. In short Environmental education makes us all **better citizens**. It also allows for **research and development**. For example, the learners at an Islamic school can study the daily patterns of water consumption at different mosques and provide solutions towards water saving strategies to the mosque trustees.

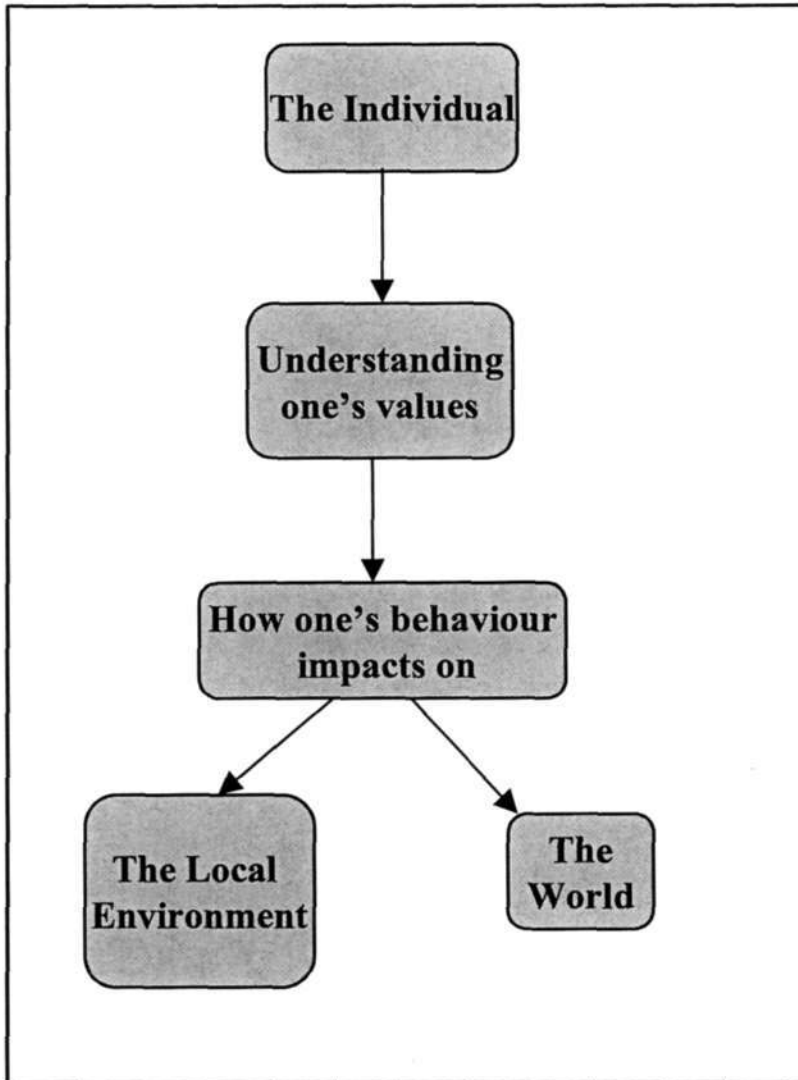


Figure 12: Environmental Education and the Individual

Beyond individual awareness is an understanding and a concern for others, a connection to other people, to the environment, to the world. Palestine, Iraq and Afghanistan do not just become *icons* of some religious debate but when learners and the community are environment-conscious, they think beyond the obvious.

We will learn to talk about environmental issues affecting Muslims throughout the world. Presently, we talk only about hostilities, yet there are millions of Muslims throughout the world who can barely eke out a daily sustenance through no fault of their own.

Globalisation has exacerbated pollution levels and caused large-scale global warming (through excess emissions of carbon fuels caused by vehicular emissions and industrial

effluents). This has caused resultant **increases in temperatures** of coastal and continental climates, protracted droughts which has caused large scale famine, pogroms and deaths in the poorer Muslim world. The older farming practices of people which sustained *subsistence-based* communities over generations are in danger or are non-existent. The migration of young, active individuals to urban areas in search of work in industries and tertiary economic activities (caused by the increase in world trade) has left farms unattended and these have turned into derelict, marginal areas.

Environmental Education in Islamic schools will bring back this awareness of the Muslim Ummah (nation).

Learners and communities, through a *conscious reconstruction* of attitudes, mind-sets and behavioural patterns must learn that their local knowledge is important, that they need to be aware of their surroundings. Every chance they learn to get outdoors, they will learn to recognise species of plant and animal life, to understand the need for wild space, the need to appreciate nature, about life cycles, the interdependence among living things and the interconnectivity between our lives, nature and Allah.

My purpose in researching and writing this thesis was to sketch, from the vantage point of divine revelations found in the Quran, a perspective on educator thinking and practice in developing environmental education and how particular forms of inquiry such as narrative, story, poetry, environmental audits, fieldwork, conversation, integration of Quran and Sunnah into classroom practice can inform our (South African Muslims) understanding of *Islam and the environment within the context of globalisation*.

This is an honest attempt to explore the relationship between the main “arteries” of the Muslim community in South Africa in the form of the investigation into Islamic schools and the Jamiats and the topic *Islam and the Environment*.

It was also an attempt to explore the relationship between the educator/Ulema^{lxii} (research subjects) and researcher understanding; that is between a particular form of inquiry and professional development.

My initial images of this experience have convinced me that:

- There is ample proof in the Holy Quran and Hadith (Sunnah) that the *natural environment* is an integral part of Islamic thought and philosophy.
- Islamic schools *albeit* involve themselves in Quranic thought have to get more involved in developing Environmental Education in their classroom practice .
- The Islamic school ethos ideally suits the development of Environmental Education due to its interactive nature.
- Islamic institutions in the MJC, JUT and JUKZN are not opposed to the implementation of Environmental Education in its organisational dissemination of information.
- The Quran promotes Environmental Education.
- Environmental Education for Muslim children and for the community at large in South Africa can only positively develop their *Tarbiyah* and build capacity in character (*Akhlāq*) and contribute towards building citizenship .
- What educators do in the classroom and what religious practitioners lecture in our mosques is a reflection or perspective of their world view, their personal practical theory, their beliefs and their values.

In this thesis, an attempt is made to contextualise and politicise the issue of the *environment* within the confines of the divine teachings of the Quran. This thesis has just started to construct a process of inquiry which is capable of **engaging** Muslim theological scholars, intellectuals and educators in meaningful conversation and planning around the issue of the *environment*.

^{lxii} Religious practitioners or priests

In the struggle to generate more *research and development* in religion and culture, the quantitative and qualitative research aspects of this thesis qualify that religion and culture allows for *research and development*.

The positivistic approach is not only confined to the sciences. Religion (as we have seen in the verses of the Quran) is science in the making. The issue concerning the **environment** is found in the Quran. This has fostered the development of various models in understanding Environmental education as a phenomenon to be developed in mainstream Muslim society. The use of generic models in the implementation of Environmental Education especially at the school chalk face level, make this thesis universally applicable to any society which is interested in sustainable development.

The relationship of schools (formal education) and community groups (and their efforts in informal education) within the context of South African Muslim society is a topic for further research within the scope of research within the School of Religion and Culture.

Whether you call this environment “nature” or “planet” or “the biosphere”, there is serious agreement that we all need to care for our planet earth and all its components. The task lies squarely on our shoulders to protect the *natural environment*. Once positively harnessed, this “people power” directed towards the care of the environment will result in cleaner air and rivers and a community that will eventually assist in nation building. The spirit of *Masakhane*^{lxiii} and *Ubuntu*^{lxiv} is embodied in the Quran which promotes Environment Education.

Nation building (*Ubuntu*) is emphasised in *Surah al-Maidah, verse 2* when Allah proclaims:

***“help one another in virtue and piety
but do not help in sin and transgression.”***

In a nutshell, Environmental Education (ICAE, 1992) should *inter alia* have the following components:

^{lxiii} isiZulu word : *Let's all build together*

^{lxiv} Xhosa word: The spirit of helping in nation building

- It should be grounded in *critical and innovative thinking* in any time or place.
- It should promote the transformation and reconstruction of society.
- It should be both individual and collective. It aims to develop local and global citizenship with respect for self-determination and the sovereignty of nations. In essence, Environmental Education has all the basic ingredients to transform the global Muslim Ummah (nation) into a formidable scientifically-grounded, purposeful force.
- Environmental Education is not neutral, but is *values-based*. The Quran and Sunnah form the basis for these values which are entrenched in divine commandments. Thus, any act of implementing Environmental Education, eg, Planting trees in a community or school is rewarding and an act of *social transformation*.

Perhaps, unlike any other school subject, Environmental Education is *diverse*. Much environmental education curriculum is constructed from an investigation of environmental issues (sometimes through text; sometimes through the senses, through critical active enquiries). Environmental issues are also different in context and form in different localities. There are also different stakeholders, different proposals for change and different vested interests at work. EE issues can be seen as historically, socially and culturally constructed.

Planet Earth is in a bad way (Solomon: 8, 1990). The lack of awareness amongst Muslims (and others) of their relationship to the world around them has led to an unthinking and careless use of the world's scarce resources, which in turn has led to untold damage that threaten Muslims and the earth will soon be beyond repair. Many Muslims do not see *globalisation* as a threat to the world's natural environment. Argosies of mines and textile factories working around the clock in Muslim countries to produce a continual stream of goods to meet global market demands and the accompanying thick piles of smoke that hang over its cities could hardly be missed by even the most sedentary, casual observer. We can see the ugliness of industrial zones, and have developed design and landscaping methods to minimise their offensiveness.

Do we ever stop to wonder if we really need the goods they produce? We notice our beaches and streets strewn with litter and know that something must be done. We have “Keep Durban Clean” campaigns but do we ask why there is a need to generate so much litter. Furthermore, we allow some of the principal generators of litter, fast food chains to whitewash their images by financially backing tidiness campaigns. We visit our local mosque, which is the icon of a sanguine environment where our vertical relationship with our Creator optimises our subliminal spiritual levels. Yet, we allow our men to stand and smoke outside the sacred precincts of our mosques.

Because we cannot see it with the naked eye, we have chosen to ignore scientists’ warnings on the thinning of the ozone layer which absorbs damaging ultra violet rays of the sun, and which allows life on this earth to flourish. The ozone layer is thinning out an alarming rate due to the excess emissions of carbon fuels caused by *globalisation*. The thinning of the ozone layer allows cancer inducing ultra violet gamma radiation to reach us directly causing skin cancer.

The *greenhouse effect* (pollution of the earth’s atmosphere by greenhouse gases such as carbon dioxide and methane means that infra red radiation (heat) cannot escape into the outer atmosphere) results in global warming and climatic changes is one of the dangerous consequences.

The greenhouse effect is caused directly by *globalisation vis-à-vis*:

- Burning of fossil fuels which produce carbon dioxide
- The practice of intensive chemical farming and mono-culture^{lxv}. This practice emits nitrous oxide
- The intensive ranching of cattle increases the amount of methane in the atmosphere
- The destruction of our natural rain forests.

The synthetic expansion of food production to provide cheap food (destined, it should be noted, for societies in which obesity is already a major cause of ill-health) means,

^{lxv} The planting of one type of crop year in and year out. Leads to soil exhaustion.

furthermore that it is no longer possible to know what goes into the production of apples, the kilo of meat or the litre of milk bought for today's tea. Reports have it that men have actually grown breasts because of the hormones used in accelerated growth of chicken for fast food outlets. When supply cannot meet demands, the answer is in *genetically modified food*

The stimulation of animal growth and milk production with hormones is a common practice. Outbreaks of salmonella and listeria have brought the issues of food contamination to public notice but as with so many other long term environmental problems; this contamination cannot be seen and often therefore is not taken very seriously.

These are only a few of the physical damage humans cause to the natural environment. However, the definition of damage needs to be widened to include the damage inflicted by people on other people. Apart from the fact that much of the world's population live in abject poverty which could be alleviated by other nations if it were more visible, the affluence of western society and the accelerated demand for goods (mass consumerism = globalisation) is damaging the lives of a great many people who are neither starving nor at war. Indices of social disorder are rising. An increasing number of people are deemed to be unhappy and depressed. Enormous quantities of psychotropic drugs are both prescribed and consumed without prescription. Crime, violence and alcoholism are rising, and loneliness seems to be the problem confronting millions. Humanity is in balance neither with itself nor with nature.

There is an urgent need to get back to basics. Nurture and care remain at the heart of the matter. *Islam and the environment* is just not a topic but a course to salvation and the sustainable existence of humans.

Environmental education concerns itself with philosophical as well as empirical questions. Whilst EE must certainly concern itself with investigating the empirical questions posed in all environmental issues (refer to Chapter Three), the distinctive feature of EE as a form of inquiry is that it also recognises and engages important philosophical questions (the political, social, cultural, ethical, *religious* implications of environmental change proposals).

This thesis argues that social, cultural and ethical viewpoints fall within the ambits of the framework of *religious thought*.

The *raison d'être* of this research exercise aims to bring divine teachings (Quran and Hadith) back into the lives of South African Muslims (internationally applicable) through the introduction of Environmental Education in schools and mosques (educational institutions). Environmental Education is the ideal medium for philosophical discourse from a religious point of view. This is essential for social transformation.

Finally, this thesis recognises the importance of educators and the Jamiat in developing EE as a prophetic science. Educators and practitioners of environmental education tend to possess a strong commitment to social transformation and this commitment is shaped by family and childhood experiences outdoors. Eventually, there will be a multiplier effect once Environmental education is practised in all our Islamic schools and communal institutions like the Jamiats. The Muslim community of South Africa can proudly add the Environmental “struggle” to their proud struggle during the apartheid era. Historians will always question:” After the democratic elections of 1994, when South Africa was freed from the shackles of oppression, what did South African Muslims do to transform Muslim society?

The increased calls for transformation in response to the social-ecological ‘crisis’ and the movement towards more sustainable societies, the dramatic effects of globalisation and its concomitant problems, the epistemological shifts in the conceptualisation of science, education and research and the paradoxes of the world of late has provided the context for this thesis. The need for educational organisations, educators and Islamic institutions to make an effective curriculum and attitudinal response to environmental concerns legitimises socially critical approaches to environmental education with an emphasis on the divine teachings of the Quran in relation to the *environment*.

We are faced, therefore, with dilemmas of personal, professional and communal change: the transformation of both actors and structures.

The topic *Islam and the environment* draws on our critical senses to empower ourselves in our orientation and re-think the roles of educators and religious leaders alike.

This calls for social transformation in the quest to offer a vision of a future world which meets the needs of all the global community without undermining the integrity of the biosphere. The solution lies in *religion and culture!*

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7 ANNEXURES

7.1 ANNEXURE A

Globalisation and Islam

By Mahathir Mohamad

Muslims and Muslim countries are faced with a tremendous and frightening challenge. Globalisation in the form that it takes now is a threat against us and our religion. We should not vent our anger and frustration by mounting futile isolated violence. Instead, we should plan and execute the development of our ummah so as to be empowered by information technology and be capable of handling the challenges of the Information Age.

Globalisation, as it is formulated and presented today; is an invention of the North Atlantic countries, and we can take it for granted that it is intended to enrich them further and enhance their domination of the world. They already dominate the world, of course. But they want to strengthen that domination to ensure they will not be successfully challenged either by the big East Asian countries or even the weak Muslim countries.

The peoples of Europe have always been an aggressive and acquisitive people. Before they were able to cross the oceans, they were continuously fighting each other and trying to occupy each other's land in Europe. In the past two millenniums not a year passed when they were not fighting each other.

Their whole culture and economy was based on wars of conquest. They were always thinking of and inventing more and better weapons to kill people. Even today we see them inventing newer infernal machines for killing people more efficiently. Whenever they can they would test these weapons in other countries, causing death by the tens or even hundreds of thousands. Their excuse now is that they want to keep the world safe for peace.

After they learned how to navigate the oceans they turned their aggressive acquisitiveness against the rest of the world. By the beginning of the last century almost

every part of the world had come under their rule. Practically every European nation had some territory to call their colony. Asia, Africa and the Americas were not only subjected to their imperious and frequently brutal rule but had all their wealth and resources taken away to enrich the metropolitan countries. Europeans treated other races of the world as inferior and in many cases simply exterminated them. In Australia the aborigines were shot on sight like animals. The Tasman Man is now extinct because of this. Of course, when they are doing this they did not talk about human rights. It would not serve their purpose.

After the end of World War II they began to give up their colonial territories. It was not because they had suddenly changed as they tried to make the world believe. It was simply because they feared defection by their colonial subjects to the other bloc as a result of their Cold War confrontation between the Western capitalists and the Eastern socialists.

Even as they were freeing their colonies they were consolidating themselves in order to ensure their continued dominance over the world. They closed ranks and formed the European Economic Community (EEC) which eventually became the European Union (EU). They also set up the North Atlantic Treaty Organisation (NATO) countries and finally when the Cold War ended in the defeat of the Eastern bloc they coalesced and have now become a solid European entity led by the seven strongest countries amongst them.

Now they bared their capitalist fangs. No longer worried about the socialists, they propounded the religion of free trade. Free trade is everything. It is going to enrich the whole world. It is going to lead to a worldly paradise. Many have forgotten that they had also promised worldly paradise when they preached communism and absolute equality. Now they are back with the same promise and it looks like people are taken in by this old promise.

Free trade as enunciated by them means the removal of all trade barriers so that goods and services can move freely across borders. Free trade is described as levelling the playing field. The implication is that a level playing field would ensure fair competition. Nothing is said about the size of the players.

Such is their hype that many poor countries talked about level playing fields, forgetting that the poor own no giant corporations or banks or products to sell in the market.

Clearly, only those who have money and products will corner the markets.

Insidiously free trade became sacrosanct through the General Agreement on Tariffs and Trade (GATT) and the World Trade Organisation (WTO). The World Bank, the IMF and the Western-controlled international media preached it. Anyone who dared to oppose free trade became heretics, infidels, non-believers who were trying to impoverish the poor.

The true meaning and implications of free trade did not become known until the free trade in currencies reached its peak during the East Asian financial crisis. Suddenly, rich emerging economies crumbled as their currencies were traded and devalued. The currency traders claimed that the economic system of these East Asian tigers were rotten, they were corrupt and practised cronyism. Because of that their currencies were unhappy and devalued themselves.

The fact, of course, is that the currency traders saw an opportunity to make huge profits by devaluing the currencies of these countries. They made billions of dollars simply by destroying the wealth which these countries had taken decades to build up. But more than that they impoverished millions of people, threw them on the streets, and caused them to riot, kill and overthrow their governments. To this day these once-rich people are wallowing in poverty and instability.

Despite clear evidence that free trade has caused unprecedented misery it is still being touted as the solution to the economic problems of the poor. Worse still, it has been upgraded and given a new name: Globalisation, a world without borders. And again we are being told that globalisation will enrich us all.

Let us examine a little the contents of globalisation. They include doing away with borders, i.e. countries will lose their definitive territories; will become just a name for a certain area of the globe. Countries can therefore no longer barricade themselves behind their borders to stop the invading hordes from the rich countries from trampling all over their puny corporations, banks and industries.

Ahead of the invasion their propaganda machines are already saying that the monopoly of all economic activities by these foreign giants would improve efficiency, the quality of the products and services that we get, and the quality of our life.

Maybe the quality of our life will improve; maybe we will earn more pay. But we will all be servants of foreigners. What is worse is that these huge foreign-owned businesses will control our economies and eventually our governments. We will become like the banana republics where the managers of foreign corporations are more powerful than our presidents or prime ministers. Indeed they will determine who our presidents and prime ministers will be.

At that stage can we honestly say we are still independent? Only the soft-brained amongst us will maintain that we are free countries in charge of our destinies. We have *de facto* become the colonies of the European nations again. We have come full circle.

At the beginning it was pointed out that when the Europeans came up with an idea, it is invariably intended to result in their domination over the world.

Well, globalisation is their idea, and we can see how it is going to lead to their rebuilding their World Empire. The developing countries of the world will pay a high cost if they swallow European ideas unthinkingly.

All Muslim countries are developing countries and they will all become a part of the empire of the North Atlantic countries if globalisation as presently conceived goes through. The picture is grim but it is not an exaggeration. The Muslim countries are weak. None of them have any influence over world affairs. For a century now they have suffered in silence while Muslims and Muslim countries are oppressed. The situation in Palestine is typical. Children who throw stones are being shot dead with live bullets.

Many have been killed. There is nothing that one billion Muslims in the world can do. We can send appeals to stop the carnage but all that we get is to be told to stop the children from throwing stones. No one tells the Israelis to stop shooting. It is as if the most natural thing for people to do when stones are thrown at them is to shoot the stone throwers dead. And yet these people who tolerate the killing of stone-throwing children talk endlessly about human rights, justice and the rule of law.

I have painted the gloomiest picture of globalisation, how it can oppress us, how it can make us once again the colonies of the rich. But it is not necessary that globalisation will have this kind of result. Globalisation can be made to work for us.

The first thing that we have to do is to understand how globalisation as presently interpreted will work.

When Malaysia was being attacked by the currency traders we were shocked to find how little we knew about the international financial system; how currencies were traded; how money was moved without ever moving it physically.

Now we read about the hundreds of billions of dollars paid for companies by other companies wishing to grow by acquisition. We read about the mergers of the giants to become even bigger giants. We don't really know how they are doing this and where the money is coming from. They have found ways, or invented ways, to put huge sums of money to work for them.

If we know enough about these wheeling and dealing we may be able to play the same games, by our own rules. We may even be able to enter as a virus into their systems to paralyse or frustrate them. They are big but size alone will not guarantee that failures will not occur. They can fail. They can lose trillions of dollars. And they can destroy themselves in the process.

We know the story of the Long-Term Capital Management (LTCM), a huge hedge fund. It was huge. It dealt in billions. But suddenly it failed and but for the help of cronies in their government, it could have dragged the whole financial system of the rich down with it. If the giant banks and the giant corporations are skilfully handled, they too can suffer the same fate as the LTCM. And as they come crashing down they will drag the powerful countries down with them.

There was a time when Muslim countries dominated the world. Then there was a decline. The decline was because we were preoccupied with bickering amongst ourselves regarding the interpretations of our religion. Muslim governments are forever being attacked by extremist Muslims. Busy trying to defend their Islamic credentials, Muslims and their countries missed completely the Industrial Revolution which was

taking place in the European world. We took no part in it and as a result we retrogressed, unable to gain anything from it. We became poor not just in terms of wealth but also in industrial capacities, the invention, design and production of the instruments of progress. We have become totally dependent on others even for our most simple needs, and the needs for our defence.

Now we are seeing the Information Age dawning upon the world. And it looks like we are going to miss this revolution, too. We are still too busy with our endless squabbles over our religion and our politics.

It is sad because we do have the capacity to participate in the development of information technology and its innumerable applications. Large numbers of highly skilled Muslims are now living in the countries of the North Atlantic. They are there because we have no place for them. And so they are contributing to the body of knowledge and Information Age skills being built up in these countries which may probably be used against us.

We can bring them back. We can tap their skills in order to build up our capacities in information technology; and with their skills and knowledge we may be able to counter some of the harmful effects of globalisation on us.

There are other ways we can work together to protect our economies and our countries. We can keep parts of our borders closed. We can stall everything until we are ready; we can change the interpretation of globalisation. We can, for example, interpret globalisation more completely by insisting on the rights of our poor people to cross into the rich countries.

That way we can reduce our poverty through the remittances of those of us who have gone abroad. It is important that Muslim communities abroad are big enough to maintain their religion and culture and possibly their influence in the countries of their adoption.

In a few decades the world's demography will change. There will be no country whose people are ethnically pure. If we are smart enough we can use this to our advantage.

Globalisation may result in huge corporations taking over the countries in which they operate. But, on the other hand, the migrants from the poor countries will, if not take over, at least play some role in the governance of the countries of their adoption. They may even be able to reduce the oppression of Muslims worldwide.

Will Muslims lose in a global nation free of nation-states, including Muslim countries? They will lose if they insist on remaining as spectators. We are a billion strong. Every sixth person in this world is a Muslim. The real problem that we face in a globalised world is that we reject the brotherhood of Islam. Sadly, while others are uniting and consolidating their strength, we are fragmenting and drifting further and further apart.

Muslims and Muslim countries are faced with a tremendous and frightening challenge. Globalisation in the form that it takes now is a threat against us and our religion. We should not vent our anger and frustration by mounting futile isolated violence. Instead, we should plan and execute the development of our *ummah* so as to be empowered by information technology and be capable of handling the challenges of the Information Age. This is our real jihad. I believe we have the talents and the capacity to ensure the success of this jihad.

Allah does not help those who do not help themselves. Tie the camel and then leave it to Him. We have indeed to help ourselves, to tie our camels. We can quote the Qur'an and the *Hadis* and argue about their meaning but whatever the arguments may be we have to act to blunt the challenge of the globalised world. We may even master it and bring back the Golden Age of Islam.

Dr. Mahathir Mohamad, the prime minister of Malaysia, delivered this speech at a meeting with Muslim intellectuals and businessmen in Doha, Qatar, on November 11, 2001.

7.2 ANNEXURE B: MOULANA-I.BHAM

TRANSCRIPT OF AUDIO TAPE:

“ENVIRONMENTAL ISSUES RELATED TO ISLAM”

It is evident that we had a world summit on sustainable development in SOUTH AFRICA. Many people are not aware about what the whole concept is all about. In a recent survey that was carried out in newspapers, it was found, that less than 15% of the population knew or were aware of with regard to the issues surrounding the summit. It was important for us to understand, not only about sustainable development, but more importantly to focus on the guidelines with what Islam mentions about the environment and the issues surrounding it.

What is sustainable development?

Normally people define sustainable development as using the resources of the earth, like water, air etc. in such a manner that you do not damage these resources. Which is, to leave a fair share of resources for the future generation. That is what normally sustainable development is defined as.

Let us understand few basic concepts about the relationship of a human being towards the earth and to which he belongs and which he inhabits. We need to understand that the Almighty has created everything on this earth for the benefit of human kind. This does not mean that those resources created for our benefit, that we are now at liberty to deal with it the way we please. It does not give us the license for one to be reckless in using the resources that the Almighty has provided and made for our benefit.

The Holy Quran mentions:

“Eat and drink, but do not waste.”

The Holy Quran also mentions:

“Verily those who are extravagant and wasteful, they are the brothers of the devil.”

It is said that if the population increases then it will impact on the environment. This is a myth, because it is not the population that is a problem. It is the *over consumption* that is a factor and needs to be taken into consideration, that is people who do not go according to moderation in terms of the usage of the resources that the Almighty has entrusted them with.

Now in a first world country, the impact upon the environment is twenty five or thirty times more negative than people who are in developing worlds, because of over consumption. This shows that it is not the population but the ill-usage of resources. In fact in 2000, it would surprise you that the United Nations (UN) spent 34 billion dollars on population control. There was a doctor in Kenya who said, that there are a lot of people who come to her and are suffering with various types of diseases but there is insufficient medicines to treat them despite the fact that they are needy and come from a poor area. She mentions further, that opposite her there is a family planning clinic which never runs out of resources, contraceptive devices to give to the people who are coming there. Here we are talking about a policy that has been put into place by the hierarchy, and it is not surprising when we hear about the clash of civilisations. We have a different method of utilizing resources in a correct manner.

The Quran mentions that: *“your sight, your hearings, your thoughts, you will be accountable for,”*

so we should not take advantage of these resources.

The Quran mentions that

“the universe is created in an extremely intricate and complicated balance, and for it not be disturbed or to create an imbalance”

The time magazine mentioned about sea weed that was growing in the Caribbean Islands and was removed and taken to an oceanarium and was put under chemical and ultra-violet rays as a means of research. It was thrown into the Mediterranean. Eventually it grew to such an extent that it started suffocating the marine life. Scientists were now worried that if did not put a stop to the sea weed growth, the entire marine life would be destroyed. What is this? Upsetting and creating an imbalance in the

environment which the Almighty has given us. That is what many scientists are trying to do today, trying to play God!

It is said that every eight seconds in the world a child dies of a water related disease. Almost 50% and 80% of the world's population does not have pure water available to them. Over 80% of the world's population lack adequate sanitation. In South Africa we open a tap and take it for granted. 8 million people in this country do not have access to flowing water. It's a daily routine in many countries of the world where children have to walk for kilometres on end, to bring fetch water for their basic needs.

Many of us do not appreciate this precious commodity. Wastage is sinful, but yet we need to preserve and not to overuse.

What is the meaning of transgression in terms of water. This is something for us to consider because our taps that are used normally, there's five litres of water that gushes out per minute. Now if you want to take fifty taps, and this will conclude that in one minute, 250 litres of water is used. Taking it further, it is said that the ratio for the survival of a human kind upon which is necessary for him/her to survive upon is twenty five litres of water daily. Now we can imagine how much of injustice we are doing.

These are some of the aspects that are brought forward and one of the aspects, is regarding *sustainable development* and the resources of the earth with regard to water. Let us take one or two other aspects. There are so many issues surrounding sustainable development, but one of the aspects is regarding the forests and the planting of trees. It is made mention that because of the neglect of human kind, it has had an effect on the earth's atmosphere.

When we hear about global warming and these factors and their particular aspects, what scientists say and predict and warn us about is that between 1990 and 2050 there would be a 1, 5 degree Celcius increase or rise in global warming. It doesn't amount to much, but if you were to consider that when we came out of the ice age, there was only an increase of two degrees celcius. Then you can imagine what an effect 1, 5 degrees can have and the consequences involved. This is to just make mention, one of the aspects related to the dying of the forests.

The Prophet Muhammed (P.B.U.H) said that:

“whoever plants a tree and looks after it with care until it becomes productive will be rewarded by the Almighty”

Another mentioned:

“whoever benefits from the tree, it will count as charity on behalf of the person who has part of the tree.”

The Quran repeatedly mentions that plants and trees are living beings and their have been created in pairs.

Talking about plants and animals. They say that scientists have identified about 1, 8 million species of plants, insects and animals on this earth. Although they say what they have identified is only the tip of the iceberg, there could be between 3 and 50 million species that they have not yet been able to identify with.

Hadrat Abubaker (R.A) told the Muslim army when they were going out in jihad (war)

“Do not cut trees , except for food.”

Today we know that in Israel, all the trees that the Palestinians are dependent upon their “risq” (source of income) for are being razed to the ground. These trees are sensitive and delicate to bare fruit. This is one aspect related to forests and the planting of trees.

Let us look at another aspect with regard to the right of animals. A book written by a great Islamic Scholar, Al-Jahiz mentions that:

“If there is a change in the environment, then this will bring about a change in the character of the animals”

Poverty alleviation has been put forward that poverty is a great affliction. We have this particular notion that wealth and affluence has become the highest of our aspirations. It has become the most desired and loved thing and all of our mind and matter is directed towards accumulating this wealth to the extent that noble qualities like knowledge and

honour are admired because of the wealth that you possess. We need to realize that material wealth is not the highest of our aspirations. There are aspects that are more important than wealth. Wealth is only part of life's possession, but neglect towards our environment will create an imbalance in our earth's ecosystem.

A survey was carried out that the United States consumption of ice-cream is 11 billion dollars annually. If that amount of money was spent it would be sufficient to give fresh water to every person on the entire earth, and then we say that population is not the cause of poverty. That is how we as human beings are responsible for the utilization of these resources.

A statistical survey carried out by the U.N in 1998 talked about 20% of the world's highest income countries account for more than 86% of consumption on this earth.

Islam is not against development and progress.

A book written by Professor William Montgomerie from the University of Edinburgh, where he talked about Islam's contribution to science. When Europe was in the dark, medieval time, Islam contributed to society. We have to contribute to society.

"We cannot live in an isolated life, as in an island, within ourselves. We need to care for our environment, and to be outreaching in preserving our earth's resources."

7.3 ANNEXURE C: EDUCATING YOUNG MINDS

Educating Young Minds

For most of his life, Tan Fong Kew spent his time doing what he loved most - teaching. As an educationist, he has devoted his time to nurturing the inquisitive minds of school children in Malaysian schools. And after 28 years on the job, he thought that it was time for him to leave the world of education and move on.

But after sometime, his instincts told him that this just couldn't be end of his teaching career. And so, after much pondering, Uncle Tan, as we love to call him, decided to join WWFM as an education officer.



Uncle Tan, as we love to call him.



Uncle Tan had no qualms about extending his help in nurturing school children in the field of environmental education

A veteran educationist, Uncle Tan had no qualms about extending his help in nurturing school children in the field of environmental education. And while he knows that teaching is never easy, and can be a slow and long term process, Uncle Tan is far from discouraged. In fact, he has undertaken several major projects, namely the Green Model Concept Schools and Youth and Environment, yet another environmental education project for youths to foster closer ties with the environment. Apart from this, he was also deeply involved in the promotion of the 'greening of schools', training teacher trainers themselves and conducting environmental education across the curriculum.

How does this 61-year old former educator maintain his vibrant youthfulness? "How, by being born again and being thankful," says Uncle Tan.

Perhaps Uncle Tan's most significant contribution would be his efforts to promote environmental consciousness among the Chinese through talks and activities in cooperation with the Federation of Chinese Associations in Malaysia. For Uncle Tan, an educator has to assume several roles when working with people. Thus, one truly needs to know one's target audience and how to deal with different people, in different situations, which Uncle Tan finds most challenging.

While some people may think that environmental education is merely for boring people, Uncle Tan seems to make people think otherwise. Over the years, he creatively gathered exciting environmental games and activities that provide visual and experiential knowledge to teachers and students alike. Uncle Tan feels that people need to have first-hand knowledge of nature and the threats that it faces, in order to inspire them to support an environmental cause. So far, Uncle Tan has traveled to as far as China, Hong Kong, Nepal, Thailand and Sri Lanka to continue his mission as an educator. He was even invited to share his unique teaching techniques at the Asia-Pacific Education Programmes of WWF International.

In his years with WWF, he admits that one of his greatest achievements took place in February this year when the project he and his team worked on received a certificate of Meritorious Achievement "Spirit of the Land" Award which was presented at the Winter Olympics Environmental Awards ceremony. Known as Promoting Curriculum Reform in Malaysia, the project aims to integrate environmental education in Malaysia's education curriculum by working closely with the government and other stakeholders.



Uncle Tan feels that people need to have first-hand knowledge of nature and the threats that it faces, in order to inspire them to support an environmental cause.

And how does this 61-year old former educator maintain his vibrant youthfulness? "How, by being born again and being thankful," says Uncle Tan

7.4 ANNEXURE D: QUESTIONNAIRE TO SCHOOLS

Name of school: _____

Name of Person elected to fill form: _____

Address of school: _____

Contact Phone number: _____

OFFICIAL STAMP

QUESTIONS:

GENERAL

1. Has Environmental Education been catered for in your curriculum. Please indicate with a [Y = Yes or N = No] alongside each learning area:

Foundation phase (Grades 0-3)

Intermediate phase (Grades 4-6)

Senior phase (Grades 7-9)

FET phase (Grades 10-12)

You may make a comment if you wish:

2. Was World Environment Day observed at your school (5 June 2004) ?:

[YES/NO]_____

3. Name some of the activities your learners are involved in during the above:

4. Does your school observe Arbor Day? [first week of September]

5. Name some of the activities your learners are involved in during the above:

6. Answer the following by placing a [Y = Yes or N = No] alongside the item/s listed below that can be found in your school:

The School in General (outside the class)

An Environmental Education Notice Board

Posters about environment issues at strategic points

An Environmental Club

An Environmental Education Newsletter

A Vegetable Patch/Garden

Plants and trees

A library with adequate books on the Environment

7. Does your school encourage assembly talks on the Environment (Indicate with a Y or N) by:

Visiting environmentalists

Ulema (on the environment)

Learners

8. Does your school subscribe to any Environmental Journal/Magazine? Yes/no

If yes, name the magazine:

9. Did any learner/s win any Environmental-related competition in the last twelve months?

Please elaborate with learner's name and award:

CLASSROOM – SPECIFIC QUESTIONS

THE QUESTIONS BELOW CAN BE ANSWERED BY REFERRING TO THE

SCHOOL IN GENERAL: [Y = Yes N = No]

- 1. Are classrooms environmentally-friendly?
- 2. Do classrooms have an Environment Mission Statement ?
- 3. Do classrooms have posters on the environment?
- 4. Do classrooms have plants?

LEARNING-AREA SPECIFIC QUESTIONS (Y = Yes / N = No)

- 1. Does Environmental Education appear as an important component of your curriculum?

Comments:

- 2. Does the school have an Environmental Officer designated to facilitate educational programmes concerning the environment?

Comments:

3. Do learning areas integrate Environment-friendly

topics?

Comments:

4. Are aspects of the Quran and Hadith on the Environment taught

to learners during the Islamic Studies/ Life Orientation

periods? [Yes/No]

Comments:

STAFF-SPECIFIC QUESTIONS

Does the school facilitate staff workshops on Environmental issues?

Comments:

Do staff members attend staff workshops

Outside the school?

Departmental Workshops

NGOs' Workshops

Other Workshops

Comments:

GENERAL

YOU MAY MAKE GENERAL COMMENTS BELOW ON ANY ASPECT RELATED TO YOUR SCHOOL AND ITS INVOLVEMENT IN ENVIRONMENT EDUCATION. PLEASE FEEL FREE TO WRITE OPENLY AND CANDIDLY ON WHAT CAN BE DONE FOR eg BY AMS ON THE ISSUE OF ENVIRONMENTAL EDUCATION

Comments:

ALL QUERIES CAN BE DIRECTED TO THE AUTHOR, MAHOMED SAYEED KARODIA AT:

082 777 8287 msk@mailbox.co.za FAX: 012-374 0638 PH: 012- 374 4647

NB: Please be informed that this research questionnaire is being used in the empirical investigation stage of a Doctoral thesis on *Islam and the Environment*. The information used will be kept confidential. Ethical clearance has been granted to this thesis: Ethical Number 02183A from the University of Kwa-Zulu Natal.