Determining the need for environmental education in the curriculum of management learners on tertiary level

Catharina Helena Venter

B.Com (Hons) HED

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Study Leader: Karolien Nell

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Abstract

Dwindling natural resources, the impact of the green house effect and infrastructure that is resource intensive are becoming a global problem. Signs of unsustainability can be identified in various events worldwide.

The above poses an important question: who should be responsible for the protection of natural resources? This question is debatable when reference is made to groups such as governments, consumers and business organisations. However, the destruction of the environment cannot continue and it becomes a problem that should be pondered by humanity at large. This leads to the role of education in environmental protection, and in this study specifically to the education of managers.

An organisation's base rests on management's philosophy, values, vision and goals. Clearly, a manager's influence can have immense influence on the organisation, its goals and involvement in environmental protection.

Taking the above into consideration, this study's objective is to determine if environmental education should be included in the curriculum of management learners on tertiary level. To achieve this objective, exploratory research was used to learn more about the dilemma or problem identified. Through interviews (qualitative research) with interest groups such as managers, lecturers and learners in management studies, the attitude of these groups were tested regarding the above objective.

Based on the study the following recommendations could be made:
- The state of the environment is of great concern and is a global phenomenon affecting all humanity, not only certain groups.
- Managers can play a much greater role in the protection of the environment.
- Governments and people in leadership positions should decide and put legislation in place that could play an important role in the protection of the environment.

- Education plays a vital role in educating people and ensures a better understanding of the role of humanity in the protection of the environment.
- Environmental protection should be implemented at all levels of the education system.
- There should be structured guidelines for management students to ensure the implementation of effective and efficient environmental protection programmes in organisations and societies.

List of key terms: environmental education, global warming, culture of the organisation, values, attitudes, behaviour

Table of Contents

CHAPTER 1: NATURE AND SCOPE OF THE STUDY

CHAPTER 2: CHANGING BEHAVIOUR TOWARDS ENVIRONMENTAL PROTECTION

CHAPTER 3:   EMPIRICAL STUDY

CHAPTER 4:   FINDINGS AND RECOMMENDATIONS

LIST OF TABLES

LIST OF GRAPHS AND DIAGRAMS

LIST OF APPENDICES

CHAPTER 1

NATURE AND SCOPE OF THE STUDY

1.1   Introduction

Many countries recognize that they are trapped in the use of infrastructure that is resource intensive and highly unsustainable. To avoid repeating the 'same mistakes', problem areas must be identified. Only then, and with a willingness to establish sustainable change, can this pattern of unsustainability be broken. Signs of unsustainability can be identified in various global and local phenomena as discussed below:

1.1.1 Global warming

Global warming refers to the rising levels of carbon dioxide and other greenhouse gases in the earth's atmosphere. An idea exist that carbon dioxide content in the atmosphere and global temperatures are linked. When carbon dioxide content in the atmosphere rises, temperature rises. This in turn leads to disastrous effects in the world such as rising water levels (Maslin, 2004:11).

Taking the above into consideration, who should then be responsible for natural resource protection?

According to Chryssides and Kaler (2005:458), there are three options:

- It should be achieved by government through legislation;
- Policies and products should be consumer-driven; and
- Environmental protection should be company led.

The above can be seen from different points of view. Governments are already involved in certain aspects of environmental protection through legislation. Certain environmental aspects are however not easily defined and protected by legislation, for example the testing of products on animals.

The dilemma with consumer driven policies and products is that the consumer should be given a wider choice of products and services delivered by manufacturers and retailers. If choice is limited, little can be achieved by consumers.

Although companies are in many cases the culprits when it comes to the use of natural resources and polluting the environment, it can be said that spending on good causes can make a company less competitive. Friedman said "The aim of a firm is to maximize profits and if this is the case then firms should only consider 'going green' if this contributes to profit maximization" (Chryssides & Kaler, 2005:460).

Considering the above, the responsibility for environment protection is debatable. However, this situation cannot continue and managers should be aware of the ethical responsibility of environment protection within their sphere of influence. This leads directly to the education of managers and the role of managers in the culture of the organisation.

1.1.2 Culture of the organisation

The development and implementation of corporate strategy has long been understood to be the responsibility of senior executives. In fulfilling that role, managers have not only been expected to have the appropriate skills and vision to lead a corporation; it has also been presumed that they would be good corporate citizens who would discharge those responsibilities with due attention to stakeholders.

It is also stated that the organisation's base rests on management's philosophy, values, vision and goals. This in turn drives the organisational culture which is composed of the formal organisation, informal organisation, and the social environment. The culture determines the type of leadership, communication, and group dynamics within the organisation. The employees perceive this as the quality of work life which directs their degree of motivation. The final outcome is performance, individual satisfaction, and personal growth and development. All these elements combine to build the model or framework that the organisation operates from (Robbins et al., 2003:70).

Clearly a manager's influence can have an immense influence on the organisation, its goals and involvement in environmental protection. These aspects, within the context of environment protection, should therefore be included in the curriculum of management learners at tertiary level.

Based on the introduction, the following problem statement could be identified.

1.2   Problem statement

The following questions lead to the proposed research study:

- Who should be responsible for environment protection within an organisation (management level)?

- How will organisations remain sustainable with dwindling environmental resources?

- Is there a lack of environmental education in management programmes at tertiary level?

The question or problem statement that the research study must therefore answer is: Should environmental education be included in the curriculum of management learners at tertiary education level? From the basic problem statement, further questions can be indentified as indicated below:

- Should managers be responsible and willing to go beyond legislation to the wiling adherence and implementation of guidelines and policies to protect environmental resources?

- Should learners in management at tertiary education level be sensitized to the importance of environmental protection?

1.3 Formulation of the objectives of the study

After the problem statement the main objective of this study could be formulated.

> The main objective is to determine the need for environmental education in management programmes at tertiary level.

The following secondary objectives are determined for the study:

- Investigating the current situation regarding environmental resources and problems;
- Identifying the role of managers in the protection of the environment and natural resources; and
- Determining the possibility of including environmental protection as part of ethics and organisation culture in management programmes on tertiary education level.

1.4 Scope of the study

The study focused on a brief investigation of the state of the environment and factors that influence the environment. The role of managers in establishing the values, goals and culture of the organisation was investigated to determine how these aspects can assist to improve the use of scarce natural resources by the organisation.

Based on the research study, the need for clear guidelines for environmental education in management programmes at tertiary level was determined.

1.5   Research methodology

In-depth interviews were held to reach the sample group. Semi-structured questions were used to ensure that all aspects of the research problem were effectively covered.

The sample group consisted of experts in the field of management. Interviews were chosen, because of its flexibility to obtain opinions from experts and it was based on qualitative research.

1.6   Literature review

The literature review focused on the current situation of environmental resources. The shortage of environmental resources influences the functioning of businesses and the role of managers at the top and functional level.

Global warming is one of the most controversial issues of the 21st century. The effect of global warming has far reaching effects on economies, political orientation, social structures and individuals. The potentially devastating effects of global warming include drastic changes in health, agriculture, the economy, water resources, extreme climatic events and biodiversity.

Arguments can be made that it is the responsibility of government, business or the consumer to protect the environment. However, it is clear that the involvement of a single party, or passing a new law, will not save the environment. All parties should be involved which ultimately also include educators in the management field.

1.7   Empirical study

The study focused on lecturers in the management field, managers from the industry and students in the management field. The following were determined:

- Perceptions on the protection of the environment;
- The state of the environment;
- Views on ethical behaviour and organisational culture with regard to environmental protection; and
- Inclusion of environmental protection in management studies at tertiary education level.

Qualitative inquiry was used, because arguments and opinions were needed to explain the scope of this study. This had to be reflected in the data and literature (Henning, 2004:3).

The research process used in this study is based and adjusted from the processes described by Cooper and Schindler (2003:65-88) and Cant et al. (2003:36-56).

Identify and formulate the problem	State the basic dilemma
	Develop other questions by progressively breaking down the original question
Determine the research objectives	Primary objective
	Secondary objective/s
Develop a research design	Determine information needed
	Method of data collection
	Time dimension
Select a research method	Exploratory research will be used
	The study will be based on qualitative data
	In-depth interviews will be used
Determine the research frame	Sample frame
	Sample size
	Sampling method
Gather data	Semi-structured questions will be used
	The data will be recorded using a digital voice recorder
Process and analyse data	Transcribe data
	Read transcript to form impressions of context
	Segment units of meaning – coding
	Look for possible groupings of codes
	Make a list of all the codes
	Categorise codes
	Read text to determine coherence
Report the research findings and recommendations	Present themes and related themes

Table 1.1: Research process

1.8   Layout

The mini-dissertation consists of four chapters and follows the following structure:

Chapter 1: Nature of the study	Statement of the problem
	Background
	Scope of study
	Objectives of the study
Chapter 2: Literature study	Review of literature
Chapter 3: Research design and methodology	Assumptions
	Collecting the data
	Analyzing the data
Chapter 4: Findings and recommendations	Findings of the study
	Recommendations
	Limitations
	Possible suggestions for further problem investigation

Table 1.2   Layout of the study

The chapters consist of the following:

Chapter 1:   Nature and scope of the study

Chapter 1 gives background information to the study. It continues by outlining the objectives and scope of the study.

Chapter 2:   Literature study

Extensive research was undertaken on the topics identified in chapter 1. This included:

- Investigation of the current situation on environmental resources and problems;
- Identifying the role of managers in the protection of the environment and environment resources; and

- Determining the possibility of including environmental protection as part of ethics and organisation culture within management programmes at tertiary education level.

Chapter 3:   Research methodology

Chapter 3 presents the research process and the discussion of the different steps in the process. This includes aspects such as the problems statement, setting objectives for the study and analysis of the data.

Chapter 4:   Findings and recommendations

Presentation of the results and recommendations for further study in environmental protection or development of management curricula are presented in Chapter 4.

1.9   Summary

In this chapter the nature and scope of the study were explained with a clear indication of the reason for the particular study. Due to dwindling resources, unsustainability can be noticed in many global and local phenomena. This leads to the question, "Who must be responsible for environmental protection?"

Education is one way to sensitize people to the plight of the planet. The study therefore focused on the question whether environmental education should be included in the curriculum of management learners at tertiary level.

In Chapter 2, a background to the environment will be discussed. Values and attitudes will be referred to as a method to change behaviour positively towards the protection of the environment and how environmental protection can fit into an educational curriculum.

CHAPTER 2

CHANGING BEHAVIOUR TOWARDS ENVIRONMENTAL PROTECTION

2.1   Introduction

In this chapter aspects that influence the environment will be referred to as background to the study. As the crises surrounding the environment become more acute over time, the important question remains: who should be responsible for environmental protection? Although this issue can be debated, it is also an aspect that nobody should turn away from, as it affects all countries and humanity at large.

One way of achieving better environmental protection is to change the values and attitudes of people. Changing values and attitudes in turn lead to changes in behaviour. Behavioural changes towards the environment can assist in less abusive use of resources leading to a more sensitive attitude towards nature and its dwindling resources.

Regarding changes in behaviour, education can play a huge role in forming values and attitudes. Although aspects concerning values, attitudes and behaviour are included in most curricula for management students, very little centres on how these aspects can influence a person and in particular future managers' attitudes and behaviour towards environmental protection. Due to behavioural changes, the importance of values and attitudes within the organisation will be discussed with special reference to environmental protection in management studies on tertiary level.

Although 'going green' is a contemporary aspect influencing societies on many levels, it is not an easy aspect to implement. Problems with 'going green' from the organisation's point of view will be discussed. Reference will be made to the philosophy of environment business management to serve as an example of how

managers can plan, implement and control environmental friendly projects in their organisations.

2.2   The state of the environment

One of the biggest problems that human beings face at the moment and in future is the effect of global warming on the natural environment.

Maslin (2004:10) refers to global warming as the rising levels of carbon dioxide and other greenhouse gases in the earth's atmosphere. There is an idea that carbon dioxide content in the atmosphere and global temperatures are linked. When carbon dioxide content in the atmosphere rises, temperature rises. This leads to disastrous, linked effects worldwide. Maslin continues to identify two major sources of carbon dioxide emissions:

The first major source of carbon dioxide is the burning of fossil fuels, since a significant part of carbon dioxide emissions comes from energy production, industrial processes and transport (Maslin, 2004:11). To illustrate this point, refer to graph 2.1.
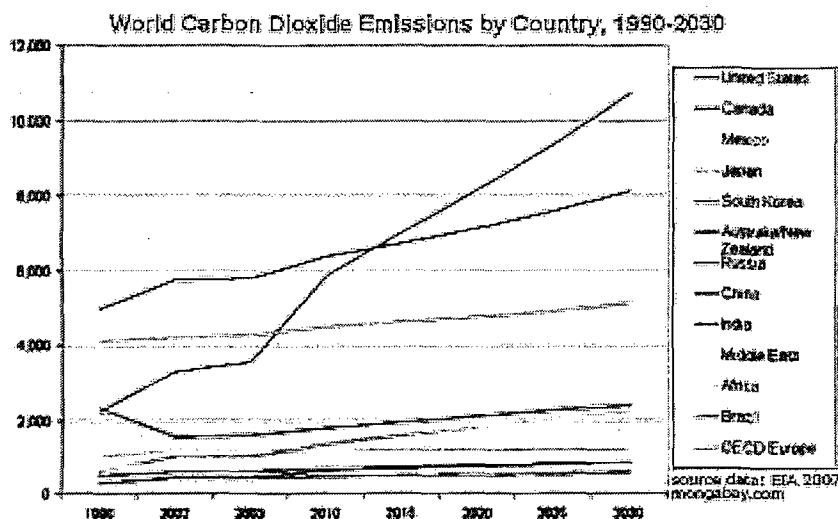
Graph 2.1: Carbon dioxide emissions by country 1990 – 2030

Graph 2.1 indicates carbon dioxide emissions by country from 1990 to future predictions until 2030. It is clear from the graph that emissions are largely produced in developed industrial countries. The Energy Information Administration expects China's carbon dioxide emissions to surpass those of the United States before 2010. After China and the United States, among major polluters only India is expected to have significant growth of emissions over the next 20 years (Mongabay.com).

The second major source of carbon dioxide emissions that Maslin identified is the result of land-use changes. These emissions come primarily from the cutting down of forests for the purposes of agriculture, urbanization, or roads. When large areas of rainforests are cut down, land often turns into less productive grasslands with considerable less capacity for storing CO_2. Forests act as CO_2 sinks so when trees are cut down excessive amounts of stored CO_2 are released. South America, Asia and Africa are responsible for 90% of present day land-use emissions. Clearly the pattern for land-use is different to the pattern for burning of fossil fuel (Maslin, 2004:11).

Global warming is just one aspect that influences the globe negatively. Shortages and misuse of natural resources also influence populations and countries. During 2008 South African citizens and businesses were faced with a growing power crisis. The following was reported in Finance & Labour (2008) under the heading 'Eskom tariff hike is short-sighted':

Business Unity SA (Busa) has asked the National Energy Regulator of SA (Nersa) to delay its public hearings on Eskom's proposed 53 percent tariff hike. Briefing the media in Johannesburg, Busa chairperson Jerry Vilakazi said a tariff increase would be "short-sighted" and was not a sustainable solution to the current electricity crisis. "We do not understand why they are fast-tracking [the application and public hearings] when they are not dealing with the issues," he said. Vilakazi said Busa wrote to Nersa on Monday requesting sufficient time for business to make submissions. "Business is already bleeding from unwanted load shedding schedules." Busa's director of economic policy, Simi Siwisa, said Busa had

requested that the regulator investigate the management of Eskom and internal problems which may have contributed to the crisis.

In a further media release on 17 July 2008 (Maroga, 2008), under the heading "Escalating coal and diesel costs along with power supply interruptions affects Eskom's performance", Maroga reported the following:

"Power supply interruptions of the scale seen during the reporting year have been unprecedented in South Africa. Meeting an increasing national demand for electricity with a much-diminished reserve has undoubtedly been Eskom's biggest challenge for this past financial year", said Maroga.

The convergence of a diminished reserve margin increased unplanned generation plant outages as well as coal supply and quality constraints forced Eskom into an undesirable position of having to interrupt the supply of electricity nationally. Between October 2007 and February 2008, emergency load shedding was implemented. In order to avoid a potential overall nationwide blackout, a national electricity emergency was declared on the 24th January 2008. For the reporting year, the key generation technical performance measures were under pressure due to low reserve margin.

The electricity crisis, which began in January, has lowered production at gold mines and delayed large construction projects. This raises specific questions such as:

- Can the environment be sustained?

- Who should be responsible for environmental protection?

2.3   Responsibility for environmental protection

As indicated in Chapter 1, Chryssides and Kaler (2005:458) stated that the question remains 'who should be responsible for environmental protection?' This aspect can be viewed from different angles:

- It should be achieved by government through legislation;
- Policies and products should be consumer-driven; and
- Environmental protection should be company led.

Looking at the different points of view, governments in various countries are involved to a certain extent in environmental protection through legislation. Not all aspects concerning environmental protection are however easily defined and protected by legislation, for example, the testing of products on animals.

Countries such as South Africa are in a unique predicament concerning environmental protection. South Africa only returned to international trade during the last decade after the free election held in 1994. Returning to international markets, they soon realized that the environmental rules of the game have changed (Winters, 1995:15). Should South Africa exchange political sanctions for environmental sanctions?

Winters (1995:15) continues to indicate that in many parts of the country business survival is priority, not growth. Lip-service is paid to environmental legislation. Globally, this situation cannot continue, as the state of the environment is becoming a worldwide crisis and assistance to developing countries such as aid packages, will most probably be attached to environmental policies.

The dilemma with consumer driven policies and products is that the consumer should be given a choice to buy environmentally friendly products and services. Retailers and manufacturers of products and services should make this choice available. If this does not happen, consumers can achieve little (Chryssides & Kaler, 2005:459).

Although companies are in many cases the culprits when it comes to use of natural resources and polluting the environment, it can be said that spending on good causes can make a company less competitive. Friedman said, "The aim of a firm is to maximize profits and if this is the case then firms should only consider 'going green' if this contributes to profit maximization" (Chryssides & Kaler, 2005:460).

Bloom in his article "*Marketers, not consumers, need environmental education*", raises an important question: who needs environmental education? Consumers are quite aware of the environmental issues. They are trying to do something about it as is indicated in the BBMG survey that takes a broad look at what makes consumers buy certain products. 'Quality' and 'price' are still important. However, aspects such as 'where the products are from' and 'how energy efficient it is' emerge as important aspects considered by consumers when buying products and services. The problem for the consumer is how to quantify these aspects.

"The point is that the marketing world needs to educate itself in the basics of environmentalism. There are now hundreds of people who say they can market my green-product but few who could tell me if buying carbon offsets will allow me to legitimately claim carbon neutrality, or that a thirty percent less plastic water bottle is actually an 'eco Bottle'" (Bloom, 2008:1).

Considering the above, the responsibility for environmental protection is debatable. However, this situation cannot continue and managers should be aware of the ethical responsibility of environmental protection within their sphere of influence. This leads directly to the education of managers and the role of managers in the culture of the organisation.

In view of the above, it should be clear that education of management students at tertiary level have to include some kind of environmental education.

2.4   Environmental education

Tertiary education students have already spent most of their life in schools where personalities, values, attitudes and therefore certain behaviour patterns are established. For 30 years scientists and educators have recognized that environmental education plays a key role in helping individuals and communities understand the complex nature of their interactions with the natural world and foresting the knowledge, attitudes and behaviours needed to improve and protect the environment (Duvall, 2007:14-24).

Although the importance of environmental education has been recognized by scientists and educators, to some extent, educators, school- and tertiary education systems have failed if the state of the environment is considered.

With reference to Cobb and Daly in Stephen Scharper's article, *Prosperity amid environmental crises* (2008:2), it is said that, "The individualism of current economic theory is manifest in the purely self interested behaviour it assumes. It has no real place for fairness … neither for the preservation of human life or any other moral concern. The world which that economic theory normally pictures is one in which individuals all seek their own good and are indifferent to the success or failure of other individuals. There is no way to conceive of a collective good."

Considering the above statement, education systems fail to instil values and attitudes that would be needed to ensure the continued sustainability of the environment.

2.4.1 The human relationship to the environment

From the above discussion, it is clear that the environment is closely related to the welfare of human beings. A key issue for environmental education will be the understanding of human beings and their relationship to the environment.

Studies showed that in official educational policy, scant reference is made to human beings and their relationship to the environment. Bonnett (2007:708) refers specifically to science education as the obvious place where any understanding of the nature of the environment should take place. Yet in many cases the goal of scientific education is the learning of 'investigative skills' and 'testing scientific ideas'. While not denying a certain importance to such goals at one level, seen from the standpoint of elucidating the underlying spirit of science education, they reflect a worrying banality, lacking any cognizance of science education as seeking to develop an appreciation of nature.

Faced with problems regarding the environment, the attention of students should be focused on their ability to ask searching questions concerning environmental problems. This should not be limited to the scientific field but include other fields of

16

study such as management studies. Educators need to understand the importance of changing values, attitudes and behaviour towards the protection of the environment. Bonnett (2007:709) formulated certain pertinent questions as indicated below:

- What is nature and what is our place in it?

- How can we know nature and what should be our attitude towards it?

- Against what criteria should humankind judge its progress/success/flourishing in relation to the natural world?

Such questions are educationally relevant, because they indicate important ways of articulating our understanding of the human situation, the environmental predicament and provide opportunities to re-focus education. Re-focusing education means that certain educational goals should be set.

2.4.2 Goals of environmental education

Al Gore stated in his testimony before congress in March 2007, "We do not have time to play around with this it is important to take steps now. We are educating the next generation of educators, business leaders, and government officials. What they do with this knowledge and these skills will determine the health of the planet in the years to come. Their work will be our legacy" (Kecker, 2007:65).

This is a fundamental statement placing responsibility on this generation to make sure that knowledge is imparted to the new generation. This would include environmental protection, the human role in environmental protection, changing values, attitudes and eventually behaviour.

Education (environment) is a journey to knowledge, skills and values, to successfully realize through gradual and effective personal and social development certain competencies (Kostova & Atasoy, 2008:52). The journey is obviously only successful when the final destination is known beforehand when it is known where to go and how to reach there.

Kostova and Atasoy (2008:53) identified certain components and content when referring to the human role in environment protection as indicated in table 2.1:

Components	Content
Knowledge	A system of facts, concepts, laws, relations, unifying themes, hypothesis, theories, prognoses, scientific picture of the world, related to the structures and functions of the Biosphere and to interactions of society with nature.
Skills	Readiness and expertise for activities in studying and protection of nature and for sustaining environmental equilibrium; and A system of skills to participate in nature conservation activity.
Values	Control of one's own behaviour (self-control) in correspondence with value system (wrong and right, good and bad, and so forth); Which accepts responsibility to future generations (ethics); Appreciates nature and the Biosphere as all-humanity values (axiology); and Keeps scientifically sound rules for behaviour, demands that from oneself and from others and stick to the principles of ecologically sustainable development.

Table 2.1: Components and content to the human role in environmental protection

In studying the above components, clearly the contemporary crises are human related. The problems are related to the aims and aspirations of humans, and in the means of their interaction with the environment. This contributes directly to the creation and worsening state of environmental problems, which in turn leads to health problems.

Environmental competency is based on knowledge, skills and values for the protection of nature outside and inside human beings. Human beings – looking from an environmental point of view – are also natural products. As they come into being, looking at the structures and functions of their bodies, they are clearly governed by natural laws.

Clearly values, attitudes and behaviour are important aspects that should be included in the studies of management students on tertiary level. To further reiterate

this point, the importance of organisational culture within which these students will function will be discussed.

2.5   Culture of the organisation

The organisation's base rests on management's philosophy, values, vision and goals as indicated in Chapter 1. This in turn drives the organisational culture which is composed of the formal organisation, informal organisation, and the social environment.

The culture of the organisation determines the type of leadership, communication, and structure and group dynamics within the organisation. The employees perceive this as the quality of work life which directs their degree of motivation and behaviour. The final outcome is performance, individual satisfaction, and personal growth and development. All these elements combine to build the model or framework that the organisation operates from (Robbins et al., 2003:70).

To illustrate the above aspects, the following diagram indicates the importance of the culture of the business:
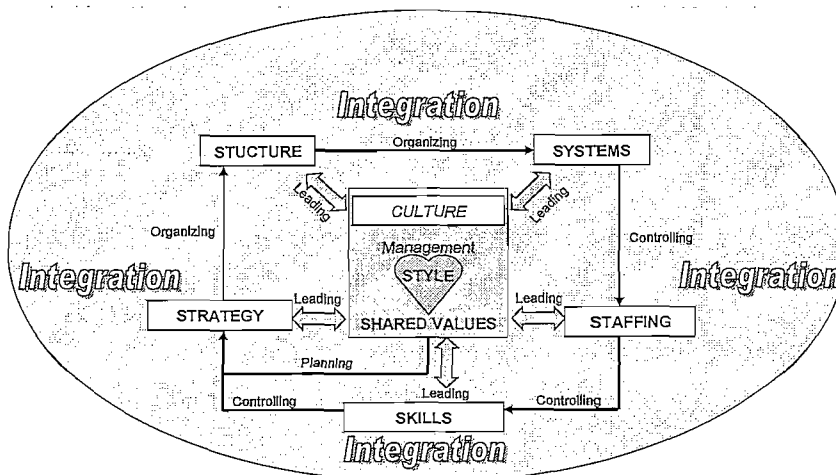
Diagram 2.1:   Shared values

Source: Adapted from Van den Bergh (2003:2)

At the centre of diagram 2.1 is the heart of the organisation: it indicates the values and culture expressed by the managers of the organisation. Other activities such as planning, communication, organising, leading as well as control, flow from this central core. Diagram 2.1 also indicates shared values at its centre. Coetsee (2002:82) indicated that this means all employees know what the values are, they have translated the values into their particular work environment, they support and live the values and the values are relevant and functional.

But before we explore values and ethics in more detail, it is important to understand the cultural dimensions of the organisation and how the focus on these dimensions influence the intensity of the organisational culture.

2.5.1 Aspects of the organisational culture

Individuals have certain traits. These traits indicate how a person acts and interacts with others. For example, if a person is described as aggressive, assertive and analytical it refers to a person's personality traits.

There are also cultural dimensions differentiating cultural groups. These differences identified in cultural groups lead to cultural group traits and influence their relationship towards nature. For example, in some countries people try to control their natural environment. Americans and Canadians use man-made fertilizers and insecticides to control nature and ensure better crop growth. Middle Easterns view life as fated to happen. When a typhoon hits this area it is seen as God's will. Far Eastern countries view nature as part of life, living in harmony with nature (Gibson et al., 2000:59).

The same can be said about an organisation. It has certain personality traits that can be referred to as its culture.

Robbins et al. (2003:70) define organisational culture as follows: "*Organisational culture can be described as the shared values and beliefs held by the members of the organisation that determine to a large degree how they act. This indicates the taboos and rules that should be held by the members of the organisation and dictate their behaviour within the organisation*".

Culture indicates the shared aspects, as individuals from the same organisation can describe the traits or personality of their organisation fairly accurately in the same terms. This is significant if we consider the diverse workforce of South Africa and the effect of globalisation on the environment.

Robbins et al. (2003:71) identified certain dimensions that, in essence, capture an organisation's culture. This is depicted in diagram 2.2.
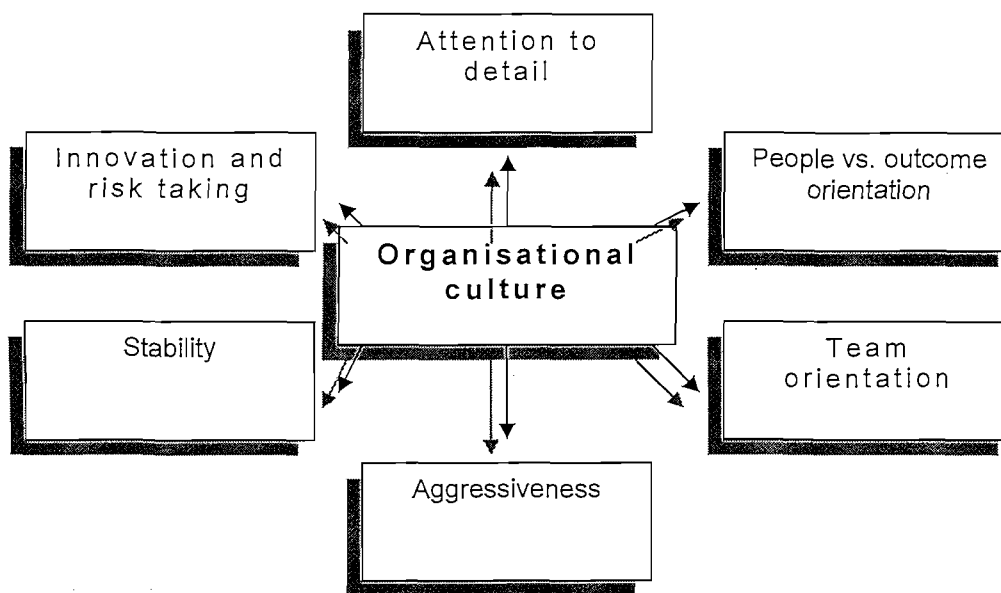
Diagram 2.2:   Dimensions of the organisational culture

Source: Adapted from Robbins et al. (2003:71)

An organisation can be weak or strong in the above dimensions and this would in turn indicate a strong or weak culture.

2.5.2 Strong cultures vs. weak cultures

Some organisations have weak cultures; some are in the middle while others have strong cultures. The organisational culture has a strong influence on leaders and determines how they would proceed. Therefore, an organisation that does not clearly indicate what is important and what is not important can be referred to as an organisation with a weak culture.

There is a relatively high agreement on what is important, what defines good employees' behaviour and what it takes to get ahead. In a study of organisational culture (Robbins et al., 2003:71) it was found that employees in organisations with strong cultures were more committed to their organisation than employees in organisations with a weak culture. Organisations with strong cultures also use their recruitment efforts and socialisation practices to build employee commitment. Robbins et al. also indicated that an increasing body of evidence also suggests that strong cultures are associated with high organisational performance.

But culture is not the only important aspect. The values and ethics upheld by leaders are also an important aspect and will be explored in the next section.

2.5.3 Ethics and values

Ethics is the study of moral principles or values that determine whether actions are right or wrong and outcomes are good or bad (McShane & Von Glinow, 2005:53).

Bates et al. (2005:353) indicates that it is the responsibility of managers to ensure that their organisation is run by ethical principles and they will be held accountable for breaches in standards and for illegal behaviour.

However, in the field of business ethics the problem exists to connect ethics with the business – many people see this as separate aspects. Knights and Willmott (2007:510) refer to the (in)famous economist, Milton Friedman and his argument for social responsibility of the business. This US free market economist has argued that the only social responsibility of business is to increase its profits. Friedman has argued that the corporate executive or manager may personally feel responsibility to particular charities or good causes but should only act on these responsibilities in the private sphere when at home or in the community. Ethics has little or no place in the business world for Friedman. Instead, ethics is seen as private and personal and should stay that way. Against Friedman's point of view, the following indicates why managers need to be ethical within their companies:

No one would run a business without accounting for its capital outlays. Yet most companies overlook one major capital component – the value of the earth's ecosystem services. It is a staggering omission; recent calculations place the value

of the earth's total ecosystem services – water storage, atmosphere regulation, climate control and so on – at $33 trillion a year (Lovins et al., 2000:1).

Responding to environmental problems has always been a no-win proposition for managers. Help the environment and hurt your business, or irreparably harm your business while damaging the earth. Recently, however, a new common wisdom has emerged that promises the ultimate reconciliation of environmental and economic concerns. In this new world, both business and the environment can win. Being green is no longer a cost of doing business; it is a catalyst for constant innovation, new market opportunity, and wealth creation (Walley & Whitehead, 2000:85).

The following serves as examples of companies that have looked at the above aspects:

Shell sustainable development

We remain convinced that engaging with stakeholders and integrating social and environment considerations better throughout the lifetime of our project makes us a more responsive competitive and profitable company in the long and short term (Shell, 2008).

Ford Motor Company

As the number of motor vehicles around the world increases, so do environmental concerns. However, we have always aimed to be a model for the industry in this area. So we're working to reduce the environmental impact of our products while providing the utility, performance and affordability customers demand. We want it to be easy for people to say, "I'm an environmentalist and a car enthusiast." (Ford Motor Company, 2008).

3M

3M's "Pollution Prevention Pays" program, is a group-driven project, with over 3 000 mainly employee-generated projects, which, since 1975, have reduced 3M's emissions by over one billion pounds while saving the company approximately $500 million. (Walley & Whitehead, 2000:85)

Employees as well as customers value companies and their leaders with high ethical values. Managers must set an example to their followers of what substitute acceptable behaviour in business. This is critically important and should be considered even when finalising deals or competing for scarce resources in the globally competitive business environment. Managers must be trusted, and support from employees to managers is much higher when their integrity can be trusted.

Managers have power leading to the potential for wrong and right, bad and good. Therefore it leads to ethical issues. Gibson et al. (2000:13) indicates that managerial decisions are clearly linked to ethics, for example:

- Managers make decisions that affect the lives, careers, and well-being of people.

- Managers make decisions involving the allocation of limited resources.

- Managers design, implement, and evaluate rules, programmes and procedure.

- Managers in making decisions display to others their moral and personal values.

Although operating ethically is important it is not always that easy to achieve. To reiterate this statement we can refer to the following ethical principles as identified by McShane and Von Glinow (2005:54):

Utilitarian principle:	the moral principles stating that decision makers should seek the greatest good for the greatest number of people.
The individual's rights:	the moral principles stating that every person is entitled to legal and human rights.
Distributive justice:	the moral principles stating that people who are similar should be rewarded similarly and those dissimilar should be rewarded differently in proportion to those differences.
Care principle:	the moral principle stating that we should benefit those with whom we have special relations.

Entering the global marketplace and with environmental protection becoming an important aspects, ethical decisions become more important and managers should consider this aspect clearly when making decisions that could influence the organisation and its staff. Obviously the manager's set of values and personality would determine what principles would be employed and decisions that would be taken. Gibson et al. (2000:433) indicates that studies examining the effect of personality on the process of decision-making have generally focused on three types of variables:

Personality variables: the attitudes, beliefs and needs of the individual.

Situational variables: external, observable situations in which individuals find themselves.

Interactional variables: the individual's momentary state that results from the interaction of a specific situation with characteristics of the individual's personality.

It is also important to note that although fundamental ethical principles are similar across cultures, how these principles are interpreted could differ from person to person and culture to culture. This also influences how employees react and is motivated by the managers and ultimately the success of the organisation.

2.6 Values

Organisations are only able to operate efficiently and effectively when shared values exist between employees. Values are the behaviour particularly valued in an organisation, based on the principle of "the way things are done around here" (Gibson et al., 2000:105). Alternatively and simply told it is "the ultimate glue that bonds the best companies". Values can be defined as the constellation of likes, dislikes, viewpoints, shoulds, interinclinations, rational and irrational judgements, prejudices, and association patterns that determines a person's view of the world.

2.6.1 Values and the relationship with organisational citizenship behaviour

Values are stable, enduring beliefs about what is worthwhile that influence thought and behaviour. It is also true that values are learned and this process begins soon after birth when parents assist the young by indicating that certain behaviours are good and others are bad. Therefore values are relatively stable and influence an individual's perception of what is good and bad.

Whether we are aware of it or not, every individual has a set of core values which can range from the commonplace such as hard work and punctuality to the more psychological such as harmony and purpose.

Clearly then an individual enters into a work situation with a personal set of values in place. Organisations on the other hand also implement and incorporate selected values into the culture of the organisation. This might lead to conflict between personal and organisational values. Dilemmas, polarities, conflict and ethical issues can thus occur.

2.6.2 Values and behaviour

Values ultimately drive our behaviour. Values are integral to the attitudes we form and would then determine how a person would respond to other people, situations and objects. Values therefore influence attitudes. Attitudes in turn influence how a person would behave. This connection between values, attitudes and behaviour is called the behavioural chain as described by Kerns (2005:42). Table 2.2 illustrates the behavioural chain with an example:

V	A	B
Values	Attitudes	Behaviour
Basic Convictions	Judgement of people	Observable action
Example	Example	Example
Protection of the environment	Off-shore drilling in Nigeria is bad	Write and send a cheque to an organisation fighting off-shore drilling

Table 2.2: The behavioural chain

From table 2.2 it is clear that only when there is a clear alignment between an individual's values, his/her attitudes and behaviour, strong and predictable behavioural patterns can be established. If not, cognitive dissonance will occur.

Cognitive dissonance can be described as non-alignment between values, attitudes and or behaviour which can cause a person to adjust behaviour or attitudes to eliminate this inner conflict. This refers to integration which leads to stability and peace of mind.

Values are a key component of effective managerial leadership. In fact, values serve as the bedrock of managerial leadership. Kerns (2005:43) identified seven ways in which values affect leaders:

- Leaders' perceptions of people and situations are affected by their values;

- Leaders' solutions to problems are influenced by their values;

- Values are integral in interpersonal relationships;

- Values affect perceptions of individuals and organisational successes;

- Leaders' acceptance or rejection of organisational stressors and goals are affected by their values;

- Personal values may affect managerial performance; and

- Values offer a basis for differentiating between ethical and unethical behaviour.

The last finding is important to approaches to ethical management. Ethical choices and behaviour are linked to virtuous values. A subset of managerial leadership values – that is virtuous values – connect to the formation of ethical behaviour or how its absence can open the door to ethical transgression (Kerns, 2005:43).

Managers with strong value systems behave more ethically than those with weaker ethic convictions. Without a strong value system, the decisions are not clear, neither the ethical path. The goal is to instil values in people so that when they are presented with ethical decisions / dilemmas they too will make choices or behave in ways that are consistent with those values. Strong core values are ranked amongst the most admired aspects of successful organisations. Kerns (2005:46) suggests that strong core values have contributed to:

- Building trust and confidence;

- Increasing accountabilities;

- Creating a spirit of togetherness;

- Steering things in the right direction;

- Creating and sustaining competitive advantage; and

- Values create a blueprint for practicing the art and science of managerial leadership.

2.6.3 Universal virtuous values

Martin Seligman (in Kerns, 2005:45) has identified a set of core virtuous values in his book *Authentic Happiness* that seem to have universal appeal. Dr Seligman writes, "While psychology may have neglected virtue, religion, and philosophy there is astonishing convergence across the millennia and across cultures about virtue and strength. Philosophers and other venerable traditions disagree on the details, but all of these codes include six core virtues:

i)   Wisdom and knowledge

Wisdom comes from capitalising on one's experiences to interpret information in a knowledgeable manner to produce wise decisions. Ethics are uplifted by wisdom and knowledge.

ii)   Courage

Courage and integrity are the cornerstones to the practice of ethical behaviour. It means doing the right thing even when it is not easy and often requires courage and integrity to do so.

iii)   Love and humanity

Love in the organisational context refers to an intense positive reaction to another co-worker, group and or situation. By showing love and kindness toward their people, managerial leaders are expressing their values of people and may in turn engender love and kindness from others.

iv)   Justice

People have a keen sense of what is fair and unfair. A leader's commitment to justice is tested continually and special treatment is perceived as being unfair.

v)   Temperance (Self-control)

The ability to use self-control to avoid unethical temptations is a core virtuous value. The capacity to take the ethical path, especially when faced with options that would provide personal gain, requires a conviction to the values of acting with temperance.

vi)   Spirituality and transcendence

Ethical leaders perceive omnipotence, recognizing that there is something beyond the individual that is more permanent and powerful. Without this, the leader might tend to be self-absorbed and egocentric.

From the above it is clear that the basis for effective leadership is truth-telling, promise-keeping, fairness and respect for the individual and the world at large. These are virtuous values and can be put into practice by managers and influencers in the business environment.

2.6.4 Putting virtuous values into practice

Values should be applied to the business environment and virtuous values can be practiced when making decisions, solving problems, and resolving questions of right and wrong, good or bad. Kerns (2005:41) proposes that to put virtuous values into practice, managers need to have a professional and systematic approach.

Kerns (2005: 41) continues to explain that managers can be seen as directors, focusers, linkers and influencers. This can be described as follows:

- In practice managers set a clear direction for the organisation – directors;

- They focus the operations on the key result areas – focusers;

- They link resources in ways to maximise their value to the organisation – linkers; while

- Talking and acting in ways that influence people – influencers.

Established behavioural standards and written codes of ethical conduct can help improve virtuous values and promote ethical organisational behaviour. Behavioural standards are typically specified guidelines for behaviour within the organisation and or specific functional work areas (Kerns, 2005:41-51).

Culture works to coordinate and control behaviour, action and decision-making within organisations. Culture reflects therefore not just explicit, written rules of an organisation, but also the unwritten, subconscious, intangible assumptions and beliefs that shape the organisational behaviour and are manifested in all facets of day-to-day life. This includes leadership style, language, dress codes, and ways of communicating the organisational structure's competitive success (Graetz et al., 2006:58).

If the above is true, the organisation should therefore reinforce personal values ensuring that those values would guide behaviour and that strong culture exists to ensure coordinated and controlled behaviour within the organisation.

2.6.5 Identifying and developing a value system

A good starting point to identify and develop a values system is the mission, vision and purpose of the organisation. Management should have a clear understanding of their values and identify those values. These values provide a framework for leaders of an organisation to encourage common norms and behaviour, which in turn will support the achievement of the organisation's mission, vision and objectives.

Taking the above into account and with a list of questions that Coetsee (2002:82-83) identified, an organisation can identify its most applicable values. The questions are:

Which values would:

- support our vision?
- emphasize what we stand for?
- motivate commitment?
- help people find meaning in the work?
- link individual efforts to organisational goals?
- motivate the most conducive employee attitudes and behaviour?

- improve ethical behaviour and help to counter corruption?

- focus effort on client needs?

- create an innovative and creative climate?

- serve as guidelines for human relations at work?

- emphasise how we would want to be perceived by the community?

Asking and answering the above questions assist leaders to clarify what important values the organisation wants to display, not only to clients and the community but within the organisation as well. But identifying these values are not the only aspects that should be looked at. Because of the important influence of shared values on work behaviour, it is also necessary to reinforce these values to the employees. To achieve this influence, Kerns (2005:xiii) identified certain aspects that should be put in place:

Reward and recognition systems: Reward people who effectively live the values as part of performance evaluation.

Communicate the values constantly: Values should fit within the organisation's communication, both internally and externally.

Values should be available: Values should be available as new members join an organisation.

Revisit and refresh the values: Revisit values and allow members to update them. This will assist in avoiding stated values that no longer reflect the business culture.

Confront contradictory behaviour: Confronting contradictory behaviour ensures that feedback is given to those who are not living the values of the organisation. Contradictory values that are not confronted can influence desired values negatively.

Ensure feedback is received: Ask people what they think are the values of the organisation. Sources can include employees as well as outside sources.

Kerns (2005:xiii) continued to reiterate the grave lack of understanding of the importance and impact of ethical leadership in business organisations. Managing ethically is crucial for the long-term survival of society. If unethical behaviour becomes the norm, culture will break down over time.

It is therefore important to understand that there are many sound business reasons to manage an organisation ethically. Reasons range from the long-term positive economic impact on an organisation to improving the quality of business output, to a very simple truth that states the following: ethics is the right thing to do.

A mounting body of evidence shows that emphasising the softer side of business, including ethics, positively influences the harder traditional bottom-line. By listening to employees, effectively recognising their work, and practicing good ethical behaviour, hard measures such as operating earnings, ROI, and stock price have received a boost.

2.7 Problems in 'going green'

Everyone, from Al Gore (previous Vice-President of America) and Harvard Business School Professor, Michael Porter has sung the praises of 'being green'.

Clearly the issues surrounding the protection of the environment and the goal of businesses, which is to maximize profit is in conflict. Walley and Whitehead (2000:86-87) indicates that "being green" becomes an aspect that most interest groups such as consumers, governments, employees and suppliers become informed about; businesses cannot ignore this aspect. In fact, Gore argues, making environmental improvements is often the best way to increase a company's efficiency and, therefore, profitability. Gore and other proponents of this new popular wisdom cite an increasing number of projects that benefit the environment and create financial value.

Taking the above into consideration it seems that a win-win situation for business and the environment is the ultimate price. But is such a situation realistic? Environmental protection is a difficult and costly aspect for organisations, showing little capital returns. Oganisations can also not be seen as paying lip-service to environmental protection. Strategic implementation of environmental plans is something that organisations must be seen to be doing.

"The challenge for managers today is knowing how to pick the shots that will have the greatest impact. To achieve truly sustainable environmental solutions, managers must concentrate on finding smarter and finer trade-offs between business and environmental concerns, acknowledging that, in almost all cases, it is impossible to get something for nothing" (Walley & Whitehead, 2000:89).

Organisations should rather look to minimize the effect of environment projects on shareholder value. This is a better option than increasing shareholder value through environmental projects. There should be no illusion about environmental protection for companies, shareholders, government or the public at large. It is a costly affair but a needed process. Therefore it should be strategically planned, implemented and controlled.

Large responsibility rests on managers to ensure that their organisations are 'going green'. Yet very few guidelines exist to assist with the determination of planning, costing, implementation and control of environmental projects. In the following section environmental business management will be discussed as a possible way to implement environmental protection.

2.8 Environmental business management

Winters (1995:27-28) believes that without ecologically-minded organisations, there will be:

- No ecologically minded economies. This is needed for a reasonable quality of life;
- No consensus between the business community and general public;

- Ever-reducing marketing opportunities as the public will seek environmentally friendly products;

- Greater prosecutions for environmental damage as governments enact stricter regulations; and

- Managers who are in conflict with their own consciences and losing their pride in their work.

As changes in technology take place at an increasing tempo, environmental technology is also improving day by day. This is only useful if organisations are prepared to use these new technologies, and through commitment to environmental protection projects.

The attributes on which the long-term success of a well-managed organisation considering 'going green' are based is indicated in diagram 2.3.
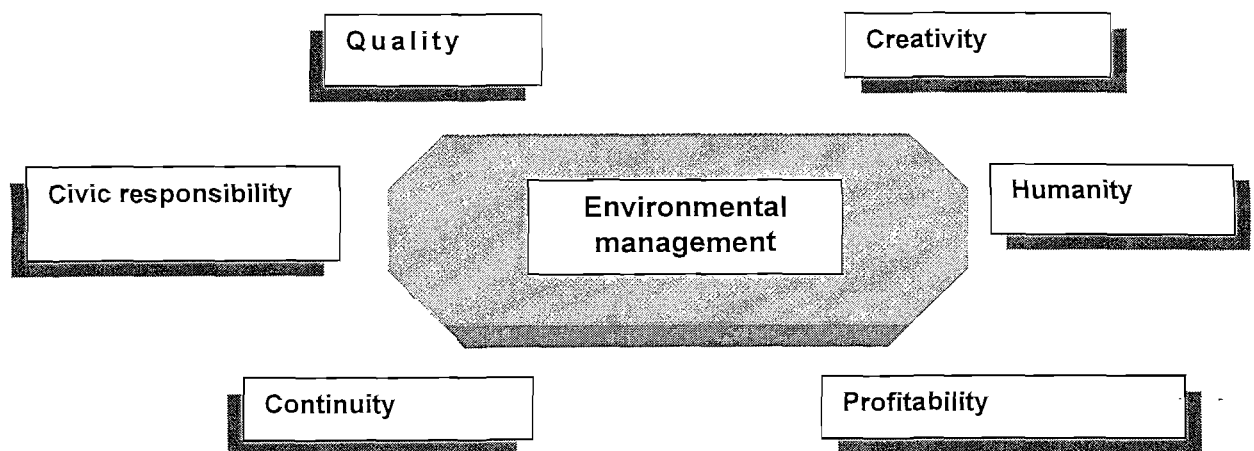
Diagram 2.3: The philosophy of environmental business management

Source: Robbins (2003: 70)

According to Winters (1995:29), the different aspects depicted in diagram 2.3 can be described as follows:

Quality: A product or service can only be of quality if it was produced by keeping environmental protection in mind, for example, environmentally friendly packaging.

Creativity: The creativity of employees is enhanced in acceptable environmental working conditions. This can include ergonomic aspects such as specifically designed chairs but also aspects such as giving employees time to be creative.

Humanity: The policies, objectives and strategies of the organisation should not only be to maximise profit but indicating a responsibility to all forms of life.

Profitability: Environmental measures can be introduced to ensure that ecological accepted products are produced.

Continuity: Stricter environmental legislation, pressure groups and social changes force organisations to supply products that are more environmentally friendly.

Civic Responsibility: A sense of the community will be felt by managers and the workforce, only if they have strong emotional ties with their environment.

The above serves only as a framework from which managers of organisations can structure projects. The implementation of environmentally friendly projects would be determined by individual organisations based on their value systems, organisational culture and willingness to introduce environmental concepts when running their operations.

2.9 Summary

The state of the environment is one of the contemporary issues plaguing the human race as we enter the 21st century. Many aspects have to be considered as time is running out to ensure the sustainability of natural resources and the environment in general. Not only do individuals need to adjust their lifestyles but societies need to re-think their values and priorities.

The business industry has long been seen as the culprit when it comes to the use of natural resources and polluting the environment. It can also be debated that governments through legislation should curb these negative influences created by

industry. Consumers can also make a difference to environmental impact by their specific buying choices. However, it remains a fact that nobody can remain apathetic towards environmental destruction and curbing negative influences in future.

Considering the above it should be clear that education on many levels should also play a role educating students concerning the environment. Management students on tertiary level are exposed to aspects such as values, attitudes and changing behaviour. Curriculums also include aspects such as organisational culture on which managers on many levels have a huge impact.

At the heart of the above discussions lies the importance of the employees of the organisation and the shared values inspired by the managers of the organisation. Managers must set an example to their followers of the kind of behaviour that are acceptable in the organisation. Being honest and leading with integrity are critical components of operating ethically. Employees who have trust in their managers can work towards a goal of shared values.

Organisational culture is another important aspect and strong organisational cultures can be associated with high organisational success. Therefore, an organisation and its managers must clearly indicate what is important and what is not important to ensure a strong organisational culture. Again this aspect ensures that employees are more committed to their organisation and it influences the success of the organisation.

Considering the above and problems experienced in 'going green', educators in management subjects on tertiary level should consider how students can be sensitized to environmental projects through management studies. Aspects that should be considered are knowledge, skills and values that can assist them with the formulation of frameworks for the planning, implementation and control of environmental projects within organisations.

CHAPTER 3
EMPIRICAL STUDY

3.1　Introduction

The study explores the state of the physical environment and the question of who should be responsible for environmental protection. Although the state of the environment rests on the shoulders of humanity at large, this statement is vague and non-committal without a clear indication of responsibility. The issue of responsibility is debatable. However, the inclusion of environmental protection in education in the management field was explored as a possible solution.

Values and attitudes can be used to change behaviour and most management studies include these aspects as part of the structured curriculum. These aspects were explored as a possible method to change behaviour positively towards environmental protection. Further aspects for exploration were identified from this statement such as:

- The role of education in developing values and attitudes that would lead to positive behaviour changes regarding the protection of the environment;
- The development of skills that would be necessary to ensure effective implementation of environmental protection programmes; and
- The responsibility of educators on tertiary level towards the development of values and attitudes that would be conducive to environmental protection.

Considering the above, the study sets out to determine if there is a need for environmental education in management programmes at tertiary level and the attitude of educators towards the protection of the environment.

To ensure that the necessary data is explored, collected and systematically analysed, the following research process was implemented to obtain answers to the specific questions.

3.2 The research process

The research process that will be used in this study is based and adjusted from the processes described by Cooper and Schindler (2003:65-88) and Cant et al. (2003:36-56).

The process consists of eight steps that were followed and implemented to reach the objectives of the research study:

Step 1:   Identify and formulate the problem

Step 2:   Determine the research objectives

Step 3:   Develop a research design

Step 4:   Select a research method

Step 5:   Determine the research frame

Step 6:   Gather data

Step 7:   Process and analyse data

Step 8:   Report the research findings and recommendations

3.2.1 Step 1: Identify and formulate the problem

Cooper and Schindler (2003:66) indicates that a useful way to start the research process is to state the basic dilemma that prompts the research and then try and develop other questions by progressively breaking down the original question into more specific ones.

Using this process the research problem identified in this study is the state of the physical environment and the changes that should take place in the behaviour of human beings to ensure effective and efficient use and protection of natural resources. The basic question stated was broken down into more specific questions

concerning environmental protection. The following questions were therefore identified:

- What is the state of the environment?
- Who should be responsible for environmental protection?
- What is the role of managers in the protection of natural resources?
- What is constituted as ethical behaviour towards the protection of natural resources?
- What role can education play in sensitizing students towards environmental protection?
- What role can tertiary education play in preparing students to be able to manage natural resources effectively and efficiently?

Various sources were consulted to determine if the research study would deliver new insights into the stated problem. Sources included journals, websites, television programmes and textbooks that referred to the state of the environment, the need for environmental protection and environmental education.

During the exploration stage of the study, areas were identified that formed part of the research study. Values and attitudes as a way to change behaviour were identified. This area was further explored as a method to change behaviour towards environmental protection in the educational system, specifically in the management field.

Once the problem statement of the study had been established, Cant et al. (2003:39) recommends that primary and secondary objectives should be set.

3.2.2   Step 2: Determine the research objectives

Cooper and Schindler (2003:101) indicate that the objectives flow naturally from the problem statement giving specific, concrete and achievable goals. When the primary and secondary objectives were set, reference was made to the research questions as identified in point 3.2.1, Step 1: Identify and formulate the problem. A

comprehensive review on existing literature pertaining to environmental education was also undertaken.

According to the stated problems, the primary objective for this study is to determine the need for the inclusion of environmental education in the curriculum of management learners at tertiary education level.

From the primary objective, the following secondary objectives could be determined for the study:

- Determine the views on the state of the environment from identified individuals / groups;
- Form an understanding of the perceptions of managers, educators and students with regard to the protection of the environment;
- Determine views regarding ethical behaviour and organisational culture towards environmental protection; and
- Determining the need for clear and structured guidelines for the inclusion of environmental protection in management studies on tertiary education level.

It is important to note that research is not a static process, where different steps happen in isolation (Cant et al., 2003:42). All the steps in this process have forward and backward linkage. While the research objectives were determined the information needed and possible research methods were also considered and included in the equation.

Research design is the next step and will be based on the above objectives identified for the study.

3.2.3 Step 3: Develop a research design

During this phase the kind of information needed must be considered in order to reach the objectives set in the previous step. In this study the questions and the kind of information needed were based on human subjects, who had to express their

40

values and attitudes, and comprehend their own behaviour. Opinions and attitudes were tested based on human judgement concerning the phenomena of the need for environmental protection in management programmes at tertiary level.

The research design adopted allowed the researcher to get close to participants, penetrate their internal logic and interpret their subjective logic and understanding regarding the identified topic or questions (Shaw, 1999:60).

As research is not a static process as previously indicated, qualitative research is considered at this point in time as an appropriate method to collect data. Shaw (1999:62) also discusses the qualitative research approach indicating that it allows the researcher to view the research problem in its entirety, get close to participants, penetrate their realities and interpret their perception as appropriate.

Cooper and Schindler (2003:147) reiterate this point by identifying certain descriptors for research design that were used in this study. The descriptors include:

The degree to which the research question has been crystallized:
For this study exploratory research was used. Exploratory research is suitable to learn more about the research problem and determine judgement and understanding regarding environmental protection.

The method of data collection:
A communication method was used to collect responses based on preset semi-structured questions. This method allowed the researcher to get close to each participant and penetrate their internal logic.

The time dimension:
It was in the form of a cross-sectional study carried out at once, giving a snapshot of one point in time. Based on the answers, a snapshot of attitudes to the inclusion of environmental protection in the management curriculum on tertiary education level could be determined.

Based on the research design and the information needed, the best method could be determined for collection of the information.

3.2.4 Step 4: Select a research method

Exploratory research was used in the research study. Exploration, as indicated by Cooper and Schindler (2003:151) is useful when the researcher lacks a clear idea of what will be experienced during the study. Through exploratory research concepts can be developed or more can be learned about the dilemma or problem identified.

The objective of the exploratory study was to determine the attitude of different groups regarding the inclusion of environmental protection in the curriculum of management learners at tertiary level. Different stakeholder groups were identified in the study. The groups included stakeholders from:

- industry;
- the management education field on tertiary level; and
- a student body, studying towards management qualifications.

Although exploratory research can rely on both quantitative and qualitative research, exploratory research relies more heavily on qualitative research. Cooper and Schindler (2003:152) indicate that quality is the essential character or nature of something; quantity is the amount. Quality is the what; quantity the how much.

Qualitative inquiry was used because arguments and opinions were needed to explain the scope of this study. This had to be reflected in the data collected and literature sourced (Henning, 2004:3).

This study relied on the arguments, attitudes and opinions of the different stakeholders identified. Quantitative research was therefore not suitable, as this method does not allow the researcher to determine subjective opinions, attitudes or allow for arguments and interaction.

The researcher was the "instrument" used to collect the qualitative data. Research conducted within the qualitative paradigm is characterized by its commitment to collecting data from the context in which social phenomena naturally occur and to generating an understanding which is grouped in the perspectives of the research participants (Shaw, 1999:64). This means that the methods used in qualitative research, according to Shaw (1999:64), must allow the researcher to enter into the social world in which they are interested and to have the emphatic understanding of the participants' experiences of the social phenomena.

Based on the above, to explore the attitudes towards environmental protection, the structure used for the interviews was a semi-structured questionnaire (refer to Appendix A). Semi-structured questions would not limit responses but provide a frame of reference for participants' answers (Cooper & Schindler, 2003:362).

To set the questionnaire, Cooper and Schindler (2003:362) were used as a source. He refers to a more focused in-depth interview, where the researcher provides additional guidance by using a set of questions to promote discussion and elaboration by the participant. Cooper and Schindler (2003:362) also indicated that this is a suitable method when exploratory research is undertaken. Therefore the questionnaire consisted of four main questions and additional guiding questions for participants were set should further prompting occur. (Refer to Appendix A.)

Because the questionnaire was limited to four main questions and guiding questions, the following important questions were asked to evaluate the appropriateness of the questionnaire. Cooper and Schindler (2003:364) discuss the following four evaluation questions that should guide the designer of the questionnaire:

- Should this question be asked?
  Check for questions that cannot be justified on either economic or research grounds. Is it just an interesting question?
- Is the question of proper scope and coverage?
  This can be measured by testing if it will reveal what is needed to know.
- Can the participant adequately answer this question as asked?

- Will the participant be able to frame the answer? Too much might be expected from the participant having answers on the tip of his / her tongue.

- Will the participant willingly answer this question as asked?
  Although participants might have the answers, they might not want to share the answer due to sensitive information.

The above evaluation questions were applied to the questionnaire. (Refer to Appendix B for the evaluation.)

Once the research method had been established, consideration was given to the participants in the study.

3.2.5 Step 5: Determine the research frame

A research frame refers to all the elements from which information can be gathered to solve the research problem. Cant et al. (2003:47) suggests that when conducting primary research, it is important that respondents are selected that are representative of the total group of people from whom information is needed.

Sample frame

In this study different groups / individuals that represent the population were identified. The groups / individuals included stakeholders from:
- industry;
- the management education field on tertiary level; and
- a student body, studying towards management qualifications.

The sample size

The sample size referred to how many respondents should be considered as this would affect the quality and generalisation of the data (Cant et al., 2003:48). It was difficult to determine the precise size of the sample for this study as this is exploratory research. The number of individual interviews depended on the type of

data collected and the analysis possibilities presented by the data. A preliminary interview schedule is presented in Appendix C. The schedule was adjusted in Appendix D as data were collected and decisions could be taken on analysis possibilities.

Selecting the sampling method

Although there is merit in the technical superiority of probability sampling, in this study non-probability sampling was used. According to Cooper and Schindler (2003:200), non-probability sampling is a subjective approach and selection of elements is unknown. However, there are various ways to select the elements for such a study.

The judgement sampling method was used in this study. The reason for the method was the selection of sample members to conform to some criterion. In the study the objective was to determine whether environmental protection should be included in the curriculum of management learners at tertiary education level. Therefore, interviews were conducted with those who had experience in this area such as managers in industry, lecturers in management studies and learners in management studies.

This method is also appropriate for exploratory research, according to Cooper and Schindler (2003:201), because of the knowledge that the group should have concerning management and environmental protection. If this group were not favourably disposed to the idea, the idea would probably fail when presented to a greater sample group with less knowledge.

Gathering data through interviews was the next step.

3.2.6 Step 6: Gather data

During this stage the data were collected. The semi-structured questionnaire used included the list of topics and aspects of the topics that had to be covered. (Refer to Appendix A.)

Welman and Kruger (2001:188) caution that the researchers should not suggest certain responses in the way the questions are structured. This was also considered when prompting the participants towards further discussions.

Data collection, through semi-structured interviews, dictated the way that the data were collected. In this instance the interviews were recorded for later transcription. The interviews were also recorded to ensure that the correct data were collected. (The researcher used a digital voice recorder.)

At the beginning of the interview the purpose of the study was explained to the participant. This included aspects on how long the interview would take and why their co-operation was needed. During this stage, a relationship of mutual confidence and respect had to be established. The participants were ensured of complete anonymity and were made to feel comfortable to express their views.

3.2.7 Step 7: Process and analyse data

Qualitative data processing and analysis is the range of processes and procedures whereby one moves from the qualitative data that have been collected into some form of explanation; understanding or interpretation of the people and situations that are investigated (Gibbs & Taylor, 2005:1).

Data reduction involves handling, organising and structuring of the data (Malhotra & Birks, 2007:239). In this study transcripts were used on the in-depth interviews, and the data were coded, meaning to break it down into discrete chunks and attaching a reference to those chunks of codes (Malhotra & Birks, 2007:240).

The above aspects were considered when the processing and analysis of the data were determined. The following steps were included:

- **Transcription and initial analysis of interview**

After the interviews the recorded data were transcribed into hard copies containing the questions and responses.

- **Reading and rereading the transcripts**

  Shaw (1999:65) indicated that this serves a double purpose. The first purpose is to become familiar with the data and the second to start the process of structuring and organising the data into meaningful units. A heightened awareness of the themes, patterns and categories are formed when reading and rereading the transcript. (Refer to Appendix E for the transcripts.)

- **Identify emerging themes / categories and start coding**

  Coding is the process of combing the data for themes, ideas and categories and then marking similar passages of text with a code label so that they can easily be retrieved at a later stage for further comparison and analysis. Coding the data makes it easier to search the data, to make comparisons and to identify any patterns that require further investigation (Gibbs & Taylor, 2005:1).

  Note: The above process was completed manually.

In the transcripts, codes were used based on themes / topics / ideas / terms. The following themes / topics / ideas / terms were identified:

P1:   State of the environment is a problem / deplorable/ a worry

P2:   Countries doing very little / countries doing more than African countries

P3:   LSM connotation / higher income groups more informed

P4:   Clear structure for environmental protection by governments / legislation

P5:   Little / small things that individuals, small groups can achieve regarding environmental protection

P6:   Aspects to inform the public not enough

P7:   Managers should play an important role / can do more in their companies to improve environmental protection

P8:   Implementing less costly environmental protection projects in companies

P9:   More costly projects should be implemented, but bottom-line still important

P10:   Very little in the curriculum of learners in management studies concerning environmental protection

P11:   Understanding the motivation behind environmental protection projects

P12:   Difficulty to adjust full curriculums

P13:   Environmental education should start at primary and secondary level learners

P14:   Education plays an important role in environmental education

The passages of the transcripts were coded, but in certain cases sections of a paragraph were also coded. All passages and sections were coded the same way (refer to appendix E for examples of coding of interviews) have been judged to be about the same theme / topic / idea / term. Whilst working through the interviews, extra themes / topics / ideas / terms were identified.

The codes were given meaningful names (refer to Appendix F) that gave an indication of the theme / topic / idea / term that underpinned the category. The thinking behind 'meaningful names for codes', was to aid in the analysis of the data.

The themes / topics / ideas / terms were categorized under the following categories to make the discussion and recommendations easy to work with and to give clear recommendations.

Category 1: State of the environment

Category 2: View as a manager / lecturer / learner with regard to the protection of the environment

Category 3: Support for the inclusion of structured guidelines for environmental education in management studies on tertiary education level

(Refer to Appendix F for the final classification.)

3.2.8 Step 8: Report the research findings and recommendations

The findings and recommendations form part of Chapter 4: During this stage the researcher interpreted the information, drew conclusions and communicated the

findings. Recommendations were made and new ideas / problems were identified for further research studies.

Limitations experienced during the research project are discussed in Chapter 4. This included research design limitations, time limitations, and data collection errors.

Lastly, appendices are included to assist the reader to understand the characteristics of the research project in more detail.

3.3   Summary

This chapter started with a clear indication of the research process that was used during the research project. The research problem was clearly identified and articulated as the state of the physical environment and the changes that should take place in the behaviour of human beings to ensure effective and efficient use and protection of natural resources.

Based on the specific research problem, objectives relating to the problem were set and the research design determined. The research design indicates the kind of information needed in order to reach the objectives set. For this study exploratory research were used to learn more about the research problem and determine judgement and understanding regarding environmental protection. A semi-structured questionnaire was developed in order to get close to the participant and penetrate internal logic.

Qualitative inquiry was chosen as a research method because arguments and opinions were needed to explain the scope of this study. The identified groups included stakeholders from industry; the management education field on tertiary level and a learner body, studying towards management qualifications.

Based on the research method, a research frame from which information can be gathered had to be determined. Non-probability sampling was used based on judgement, to ensure that sample members conform to some criterion.

Data analysis of the semi-structured questionnaire was based on transcripts. The data were then coded, meaning to break it down into discrete chunks and attaching a reference to those chunks of codes. From this the data could be analysed and findings / recommendations presented.

CHAPTER 4

FINDINGS AND RECOMMENDATIONS

4.1 Introduction

In the final chapter the findings are reported based on the process described in Chapter 3, section 3.2.7. The findings are reported under the three categories identified to ensure clear feedback on the findings. Recommendations are made and due to the exploratory nature of the study, further aspects for research are identified. Problems were experienced during the study. These aspects are discussed. Reference is made to the advantages and disadvantages of the in-depth interviews to reflect on the choice of method in this study.

A brief evaluation is performed to ensure that the primary and secondary objectives of this study have been reached.

4.2 Report on findings

The different categories identified in Appendix F are used when reporting on the findings in this study.

Category 1: State of the environment

The participants clearly indicated that the state of the environment is a problem that cannot be ignored and this can be seen in various aspects regarding the environment. Participants indicated the following:

- "He/she was driving from Pretoria and happened to look at the state of the environment. It gives you an idea of the state of the nation.
- "There is more litter, illegal dumping is worse, dumps next to rivers are noticed.

Participants were well informed about the 'green house' effect and global warming.

Participants indicated that very little is being done, especially in Africa, compared to other countries. Different aspects were referred to which made it clear that developed countries are more advanced in the protection of natural resources, for example:

- "In Canada you buy a gadget that boils the water as needed."
- "Lead-free paint is used on toys for children but mostly in developed countries. But places like China do not feel much for the environment".
- "More should be done in developing countries to ensure better use of natural resources".

Income levels also have an effect as clearly indicated by the participants. Higher income means better exposure to media channels and a better knowledge of information regarding world matters. When you do not have food the last thing a person would be concerned about would be the state of the environment. However, this also affects the rate and state of the environment in developing countries.

Category 2: View as a manager / lecturer / leaner with regard to the protection of the environment

Most participants referred to the role of governments and legislative processes. Legislation should be coming from the top influencing all levels of society. A good example was the following view expressed by a participant:

- "Companies need to meet BEE requirements, so why does the government not say that they should have a green compliancy. If you don't have green compliancy we don't do business with you."

A strong view that environmental protection should be part of the legislative environment was clear from the interviews. Reference was also made to the small things that can be done to improve the impact of an organisation on the environment,

for example, limit the number of e-mails printed, using different containers for different types of refuse.

Although participants felt that more should be done to inform the public, it was also clear that they have a good understanding that not all members in society have access to media channels. So, different methods must be used to inform the public at large.

It was also clear that managers should play a more important role in environmental protection and should do more as influencers in their companies. This includes implementing less costly environmental protection projects in companies but should not exclude programmes that could cost more. The implementation and planning of such projects should be from the top down. However, the bottom-line (profit) remains an important aspect in any organisation, but participants expressed the view that sustainability is important and a no-win situation will become evident if something is not done about the environment. The participants also indicated education as an important aspect to influence people. People must be informed and understand why certain aspects concerning the protection of the environment is planned, implemented and controlled.

Category 3: *Supporting the inclusion of structured guidelines for environmental education in management studies on tertiary education level*

The participants suggested that understanding the motivation behind environmental protection projects is of great importance. This is where education plays an important role. However, this should not be limited to the tertiary education level, but is something that should be implemented from an early age. One of the participants referred to the establishment of an 'environmental culture'. An 'environmental culture' would refer to how each person in a society responds to the environment and take responsibility for their actions.

53

Lecturers in the management field indicated that the curricula for management studies is structured and includes aspects that management students should cover. To include environmental aspects will include a 'soft options' in the curriculum compared to, for example, financial subjects.

The question posed to learners in management studies, gave a clear indication that environmental protection is at the bottom of importance compared to other aspects in the curricula. That is, if it is included at all in programmes.

From the views expressed by the participants it is clear that environmental protection is important and that education can play an important role in sensitizing learners to this important aspect.

Based on these findings from the in-depth interviews, the following recommendations can be made.

4.3   Recommendations

The following recommendations can be made based on the study:

- The state of the environment is of great concern and is a global phenomenon affecting all humanity, not only certain groups.
- Managers can play a much greater role in the protection of the environment.
- Governments and people in leadership positions should decide and put legislation in place that could play an important role in the protection of the environment.
- Education plays a vital role in educating people and ensuring a better understanding of the role of humanity in the protection of the environment.
- Environmental protection should be implemented at all levels of the education system.
- There should be structured guidelines for management students to ensure the implementation of effective and efficient environmental protection programmes in organisations and societies.

4.4   Further research suggestions

To ensure that the above recommendations are implemented to some extent, further research is needed in the following areas:

- Inclusion of structured programmes in the curriculum of all levels of education;
- Investigate how the curriculum of management learners on tertiary level can be adjusted to ensure that they would be able to use natural resources and are sensitized towards environment protection;
- Informing the general public more effectively about the state of the environment; and
- Changing values and attitudes to change behaviour positively towards the environment.

4.5   Problems experienced during the study

The following problems were experienced during the study:

Schedules of participants

Participants tended to be busy. However, the in-depth interviews could be scheduled at offices and convenient venues to overcome this problem.

Heterogeneity of participants

Although focus groups might have been a better option, views from the point of view of learners, managers and lecturers were needed. This made in-depth interviewing a better option than questionnaires and focus groups.

Background information

Background information had to be explained concerning the study to ensure that the participants had a good idea of what was expected during the interviews.

4.6 Advantages and disadvantages of the in-depth interview

4.6.1 Advantages

Interview reflection

After formal interviews, discussions concerning the environment continued on a more personal level. This also assisted to reflect on the interview and determine any other aspects of importance regarding environmental protection.

Uncover a greater depth of insight

Individuals were specifically chosen for their background. Therefore, great insights were given to aspects of environmental protection.

Results are free of social pressure

There was no group pressure to conform to certain views or answers. Individual responses could be clearly determined.

Better understanding of issues

Due to the in-depth discussion, views could be clarified and statements confirmed.

4.6.2 Disadvantages

Lack of skills

A lack of skills during interviewing might mean subjectivity and leading questions to participants.

Time constraints

In-depth interviewing takes time and resources. Therefore, the number of in-depth interviews in this project tend to be few.

4.7 Evaluation of the study

4.7.1 Primary objective

The primary objective of this study was to determine the need for the inclusion of environmental education in the curriculum of management learners on tertiary education level. The objective was reached if reference is made to the findings and the recommendations reported under sections 4.2 and 4.3.

4.7.2 Secondary objectives

- Determine the views on the state of the environment from identified individuals / groups;
  (This objective was reached under the discussion of Category 1: State of the environment)
- Form an understanding of the perceptions of managers, educators and learners with regard to the protection of the environment;
  (This objective was reached under Category 2: View as a manager / lecturer / learners with regard to the protection of the environment)
- Determine views regarding ethical behaviour and organisational culture towards environmental protection;
  (This objective was reached under Category 2: View as a manager / lecturer / learner with regard to the protection of the environment
- Determining the need for clear and structured guidelines for the inclusion of environmental protection in the curriculum of management learners.
  (This objective was reached under Category 3: Support the inclusion of structured guidelines for environmental education in management studies on tertiary education level.)

4.8 Summary

The purpose of this chapter was to conclude the empirical study, report on the findings, give recommendations and reflect on the study by evaluating if the objectives were reached through qualitative research and the use of in-depth interviews.

When considering the above and reflecting on the study, Malhotra and Birks (2007:211-212) indicated the following that concludes most of the findings:

The quality of the in-depth interview explains the qualities that the participants possess in terms of richness of experience and how relevant the experiences are to the study.

In this study the participants gave extraordinary insights into the stated problem.

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Appendix A

Semi-structured questionnaire

1. *What are your views on the state of the environment?*

   Prompts:

   - Have you noticed / read / experienced aspects regarding the deterioration in the environment?
   - Should the general public be informed / assist in environmental protection?
   - Who should be responsible for environmental protection?

2. *What is your view as a manager / lecturer / student with regard to the protection of the environment?*

   Prompts:

   - What is the role of managers in the protection of natural resources?
   - Should education play a role in making students aware of environmental education?

3. *In your opinion, do business organisations have an ethical obligation towards the protection of the natural environment that they function in?*

   Prompts:

   - Should organisations investigate the introduction of special environmental protection programmes?
   - If you were a shareholder in a business, what would your opinion be towards the introduction of an environmental protection programme in the specific business organisation?

4. *Would you support the inclusion of structured guidelines for environmental education in management studies on tertiary education level?*

   Prompts:

   - What role can education play in sensitizing students towards environmental protection?
   - What role can tertiary education play in preparing students to be able to manage natural resources effectively and efficiently?

Appendix B

Semi-structured questionnaire (Evaluation)

Question	Evaluation questions	
What are your views on the state of the environment?	Should this question be asked?	Yes
	Is the question of proper scope and coverage?	Yes
	Can the participant adequately answer this question as asked?	Yes. With background information
	Will the participant willingly answer this question as asked?	Yes
What is your view as a manager / lecturer / student with regard to the protection of the environment?	Should this question be asked?	Yes
	Is the question of proper scope and coverage?	Yes
	Can the participant adequately answer this question as asked?	Yes. With background information
	Will the participant willingly answer this question as asked?	Yes
In your opinion, do business organisations have an ethical obligation towards the protection of the natural environment that they function in?	Should this question be asked?	Yes
	Is the question of proper scope and coverage?	Yes
	Can the participant adequately answer this question as asked?	Yes. With background information.

	Will the participant willingly answer this question as asked?	Yes
Would you support the inclusion of structured guidelines for environmental education in management studies on tertiary education level?	Should this question be asked?	Yes
	Is the question of proper scope and coverage?	Yes
	Can the participant adequately answer this question as asked?	Yes. With background information
	Will the participant willingly answer this question as asked?	Yes

* Brief background information were given to participants.

Appendix C

Preliminary interview schedule

Industry

Date	Participant	Industry
To be determined	Leadership Development Manager	Banking industry
To be determined	General Manager	Educational industry
If needed	CEO	Entrepreneur

Lecturers

Date	Participant	Institute
To be determined	Academic Head	Tertiary level - Management
To be determined	Senior lecturer	Tertiary level – Management
If needed	Lecturer	Tertiary level – Management

Students

Date	Participant	Institute
To be determined	Student	Post grad Management
To be determined	Student	Post grad Marketing
If needed	Student	Post Grad Management

Appendix D

Final interview schedule

Industry

Date	Participant	Industry
21 Oct '08 9:00	General Manager	Educational industry
23 October '08 17:00	CEO	Entrepreneur

Lecturers

Date	Participant	Institute
22 October '08 10:00	Lecturer	Tertiary level - Management
27 October '08 10:00	Senior lecturer	Tertiary level – Management

Students

Date	Participant	Institute
23 October '08 15:00	Student	Post grad Management
30 October '08 9:00	Student	Post grad Marketing

Appendix E

Examples of transcripts of interviews

Interview 1: Manager

Thank you very much for being part of this study. I have explained the background and I would like to know your views on the state of the environment.

I can't remember the movie but the one in which El Gore start. I am extremely passionate about the environment and I think it is deplorable that companies don't take environment protection seriously. **(P1, P2)** I think that the state of the environment is in a sad state. **(P2)** I was driving from Pretoria and happened to look at the state of the environment. It gives you an idea of the state of the nation.

Should the public be more informed about environment protection?

There is a LSM connotation to this for example if you take the countries in Europe who are more developed, **(P3)** they are very much into green piece while in countries where they are just trying to survive. Whilst in higher income groups there is more awareness. **(P3)** But education programmes should be started much earlier, being a teacher myself you can take kids to veldskool and they don't through papers around for a while. **(P10)** However after a few weeks you are back to square one. So I think that environmental protection should take place from an early stage but companies should be forced to deal with environmental problems. But you have more success when people are educated than when they are forced. **(P4)** When it is from the top down people don't always understand. Driving on the highway I saw a person crossing the street with a wheelbarrow full of wood. **(P3)** That is destruction of the environment but also a means of survival. Obviously they don't have electricity and it is good that the government would be able to supply them with electricity even if it increases carbon dioxide. **(P4)** Because we are one of the worst countries when it comes to emissions due to coal stations providing electricity. Education is vital if the people should buy into this and even in communities where leaders take initiative to clean areas. **(P14)**

*What is your view as a manager with regard to the protection of the
environment? What should the role of a manager be?*

As a manager you don't always do enough. **(P7)** It might be something simple like
don't print this e-mail. **(P5)** But do you repeat this enough? For example in staff
meetings and even the group. **(P7)** Can I safely say that they are all aware of my
point of view regarding the environment? Managers must have a role and it varies
from company to company. A friend of mine works for X and the awareness of
environment is massive. **(P7, P8)** Another friend works for Y and they have different
boxes for different kinds of rubbish. They are very meticulous when it comes to this.
They don't have wastepaper baskets but have these different containers. However
we have come far. A managers role is to get systems in place to ensure to be as
environmentally as possible for example a switch that would switch of all air cons art
a certain time 17:15. **(P8)**

As a manager you mentioned that you could do more. .
*In your opinion, do business organisations have an ethical obligation towards the
protection of the natural environment that they function in?*
Should managers look at an environmental programme?

It goes back to the education programmes, **(P14)** if Fortune cleans the dustbin, is
there any incentive for her not monetary but would motivate her when she empties a
dustbin to separate different rubbish. **(P7)** I do believe that there is an ethical
obligation on companies. Does she have gloves to actually work in the dustbin.
(P11) We don't have posters on the wall about saving the environment. Should we
have a committee that looks after the environment? **(P7)**

*To start an environmental protection programme is actually costly, what would you
say of the influence on the shareholders, the environment and the company at
large?*

If we look at the situation in Zimbabwe, they would laugh at me. **(P2, P3)** We can
do certain thing in RSA but they can't even pay rent. You can even do things that
won't cost much such a paper that we can recycle, **(P5)** what goes down the drain.
Small things that we get one of the containers for glass it might take a year to fill up

but still. **(P5)** Time switches will cost money but installing this saves money on the long term and the effect on the environment is reduced. **(P5)**

The last question, I have done a programme for managers. There was no structure in the curriculum that referred to environmental protection only a few case studies. Would you support the inclusion of structured guidelines for environmental education in management studies on tertiary education level?

Absolutely. In Canada you should have a gadget that boils the water as needed.**(P6)** I wanted to do this in the RSA but they thought I was crazy. The government should force us to do this in RSA. **(P4)** Insurers replace 30 000 geezers per month. Imagine we could have those replacements. And what about solar heating. Even if you had forced training where people become aware about environmental protection. **(P14)** I had no idea until my trip to Canada that people only pay for what they need. **(P6)** Also training sessions. If you become a manager / CEO you should have this kind of training. For example you could not become a vice principle if you did not complete certain courses. However in the new dispensation this did not work. **(P4)** So a component of your education or training towards a manager should include environmental protection. There is certain ways that government could find to implement this. **(P4)** For example companies need to meet BEE requirements, so why does the government not say that they should have a green compliancy. If you don't have green compliancy we don't do business with you. **(P4)**

Interview 2: Lecturer

Thanks you for taking part in this interview. I have given you background to the study and it is anonymous.

The state of the environment is a worry as we all have a fair idea of global warming. **(P1)** It is however not something that is limited to one country but will influence the world and all counties. **(P2)** Yet it seems that large powers such as America is doing very little **(P)** to prevent this and a lot of environmental indabas of great powers comes to very little. **(P2)** Surely there must be a plan. **(P4)** At the last environmental gathering of world powers, island communities indicated ther concern regarding rising water levels. Beijing is another example. The pollution apparently is appalling. **(P1)**

Do you think we are doing enough to inform the public?

Surely there are certain aspects that are covered. You read about this in papers, news, articles but surely that is not enough. **(P6)** People should be more informed and sometimes I think it is the little things that we do that could make a huge difference. **(P5)** We don't always see it that way however.

What is your view as a lecturer with regard to the protection of the environment? Should education play a role in environment protection?

I agree with this statement. Education can surely play a major role. **(P14)** I don't think that we always realize the effect that we have on the environment. I teach in management studies and have been a student over the past few years. **(P10)** Very little guidelines are given on environmental protection. We do a little around social responsibility. However is it really enough? **(P10)** Although the curriculum is set it can include examples chosen by the lecturer. So yes you can include environment and aspects surrounding this aspect but nothing formal is included. **(P14, P12)**

In your opinion, do business organisations have an ethical obligation towards the protection of the natural environment that they function in?

Organisations definitely have a responsibility. **(P7)** They are in many cases the users of natural resources or would be able to make a huge difference by implementing certain aspects that could be beneficial to the environment. **(P7. P5)** One simple idea is garden. The use of indigenous plants and trees is both water wise and good for nature and will cost the company very little. Using switches to safe electricity. **(P5)**

Do you think that costly environmental projects are beneficial to the shareholders of a company?

Although there is small things that can be done to increase environment protection, other projects might cost money. **(P8)** In management it's always about the bottom-line and income. **(P8)** So yes I don't think that there is an easy solution. However I also feel that if we don't take a collective effort it might be too late. **(P8)** Therefore education can play an immense role in assisting managers to consider the ethical dilemma of using natural resources without thought of tomorrow. **(P4)** It is not sustainable.

Would you support the inclusion of structured guidelines for environmental education in management studies on tertiary education level?

As a lecturer this is a difficult question. Environmental protection would be seen as a soft option for students. **(P12)**

What do you mean by this?

It would be the same as organizational behaviour, change management as opposed to crunch subjects such as stats and financial subjects. **(P12)** In other words an already full curriculum would be challenged with another aspect that must be covered. **(P12)** However I for one would appreciate the formal inclusion of such an aspect with the help of specialists in this field. **(P11, P14)** Students in management usually do some aspect on ethical behaviour which at this stage should include environmental protection as an important aspect. **(P14)**

Appendix F

Codes themes / topics / ideas / terms

Category 1: State of the environment

P1:   State of the environment is a problem/ deplorable/ a worry

P2:   Countries doing very little / countries doing more than African countries

P3:   LSM connotation / Higher income groups more informed

Category 2: View as a manager / lecturer / student with regard to the

protection of the environment

P4:   Clear structure for environmental protection by governments / Legislation

P5:   Little / small things that individuals small groups can achieve regarding environmental protection

P6:   Aspects to inform the public not enough

P7:   Managers should play and important role / can do more in their companies to improve environmental protection

P8:   Implementing less costly environmental protection projects in companies

P9:   More costly projects should be implemented but bottom-line still important

P10:   Very little in the curriculum of students in management studies concerning environmental protection

Category 3:   Would you support the inclusion of structured guidelines for environmental education in management studies on tertiary education level?

P11:   Understanding the motivation behind environmental protection projects

P12:   Difficulty to adjust full curriculums

P13:   Environmental education should start at primary and secondary level learners

P14:   Education plays an important role in environmental education