

Evaluation of provision and accessibility of government's environmental programmes and campaigns to the community of Masibekela, a rural village in Mpumalanga, South Africa, under the Nkomazi Local Municipality

by

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DECLARATION

I, Sibonangaye Dick Nkalanga, hereby declare that the dissertation ***'Evaluation of provision and accessibility of government's environmental programmes and campaigns to the community of Masibekela a rural village in Mpumalanga, South Africa, under the Nkomazi Local Municipality'*** is my original work investigated by me and was never submitted by me to any other university or institution of higher learning for the purpose of a degree.

Dick Nkalanga

Date

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Philosophically speaking, it is always a good idea to give every person a hearing but on the other hand not everything said by a human being on this planet Earth deserves to be afforded the status of being vital because some utterances are devoid of any advice. When I embarked on this research project some individuals hinted that conducting research is as easy as ABC, a matter of copy and paste. But as I progressed it became clear that conducting research is a very long and tedious journey which requires hard work, contrary to the myth of 'a walk in the park'.

This research product is a combination of many hours of hard work and dedication. Having said that let me take this opportunity to express my gratitude to the following:

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ABSTRACT

The study focuses on the role of government in the provision of environmental programmes, events and campaigns. South Africa is a signatory to a number of environmental treaties and protocols hence it is expected to celebrate environmental days annually, such as World Wetland Day, National Water Week, World Environmental Week, Arbor Day and many more. The study considered the community of Masibekela, a remote rural village in Mpumalanga Province under the Nkomazi Local Municipality as its study area.

Both qualitative and quantitative methods were applied to gather the necessary data from the four sets of respondents to a questionnaire survey, namely: the Sector Manager of Tonga Environmental Centre, traditional leadership and community members, learners and educators.

The study discovered that the provision of environmental programmes, events and campaigns to the study area by the government leaves much to be desired. It lays bare that the community members of Masibekela are neglected environmentally by the government as compared to schools. The study also revealed contrasting features both in the knowledge and celebration of some of the environmental days by both the schools (learners and educators) and the general community members. A high percentage of learners and educators expressed their knowledge and celebration of environmental days since they are frequently visited by government officials to promote environmental programmes, events and campaigns geared towards environmental education and awareness but the same cannot be said about the traditional leaders and community members.

It is recommended, among other things, that the Tonga Environmental Centre, as a custodian of provision of environmental programmes, events and campaigns, should be capacitated both in terms of human resources and strategic planning so as to meet its expectations. It is also recommended

that more funding for bursaries for environmental studies for the youth should be made available and also more capital should be injected into the actual promotion of environmental programmes, events and campaigns. The National Department of Education in collaboration with the Department of Environmental Affairs should consider including Environmental Education in the school curriculum as a compulsory subject in all grades.

KEY WORDS

Environmental programme

Environmental campaign

Environmental event

Environmental education

Environmental awareness

Environmental governance

Community engagement

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LIST OF ACRONYMS AND ABBREVIATIONS

ACAT	Africa Co-operation Action Trust
ACUHO-I-SAC	Association of College and University Housing Officers International Southern African Chapter
BRD	Buriat Regional Department
CAPS	Curriculum and Assessment Policy Statement (South Africa)
CD:NGI	Chief Directorate: National Geo-spatial Information
CFJ	Citizens for Justice
CNDAV	National Commission in Defence of Water and Life
COP	Conference of Parties
EDA	Environment and Development Agency
EE	Environmental education
EIA	Environmental impact assessment
ESD	Education for sustainable development
FET	Further Education and Training
FOEI	Friends of the Earth International
GCI	Green Campus Initiative
GEO	Global Environmental Outlook
GET	General Education and Training
IDP	Integrated Development Plan
IMCCC	Inter-Ministerial Committee on Climate Change
IUCN	International Union for Conservation of Nature
KP	Kyoto Protocol
NCS	National Curriculum Statement
NEAC	National Environmental Awareness Council
NEEP	National Environmental Education Programme
NEETF	National Environmental Educational and Training Foundation
NEMA	National Environmental Management Act
NEMA	National Environmental Management Authority
NPC	Non-Profit company

NGO	Non-governmental organisation
POP	Persistent Organic Pollutant
PRASA	Passenger Rail Agency of South Africa
RNCS	Revised National Curriculum Statement
SAB	South African Breweries
SanParks	South African National Parks
SDF	Spatial Development Framework
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UVP	Umgeni Valley Project
Vas	Voluntary Approaches
VEP	Voluntary Environmental Programme
VGL	Veterinary Genetics Laboratory
WESSA	Wildlife and Environment Society of Southern Africa
WSSD	World Summit on Sustainable Development

CHAPTER 1

INTRODUCTION AND PROBLEM ORIENTATION

1.1 BACKGROUND

It is an undeniable fact that there exists a strong bond between human beings and their surrounding environment. Human activities continue to have negative impacts on the environment and its resources. The provision of government's environmental programmes can assist the public with an understanding of the consequences of their daily actions. Alleviating and combating common environmental problems such as water pollution, dumping, littering and deforestation would be enhanced positively if human beings' sensitivity and concern regarding environmental matters were to increase.

There is on-going debate about the appropriate role of government in solving environmental problems. Many environmentalists are calling for increased government intervention through effective environmental programmes geared towards environmental education and awareness. Many others are more predisposed towards the individual accepting responsibility.

South Africa has a number of environmental Acts and programmes aimed at making people mindful of their daily activities in relation to the environment. One serious problem surrounding these Acts and environmental programmes is the ineffectiveness of government alone in implementation and promotion of environmental education and awareness, particularly in rural communities.

A large number of environmental non-governmental organisations (NGOs) exist in South Africa. Many of these groups try to garner support for their respective causes by educating the public about environmental issues to promote awareness and concern but they are faced with many obstacles including lack of funding from government. This culminates in their

programmes being inaccessible to the majority of people in rural communities.

Environmental issues are so important that the South African government saw fit to entrench the environmental rights of its citizens in the country's Constitution. In terms of the South African Constitution (Act 108 of 1996), Chapter 2 (Bill of Rights), Section 24: 'Everyone has the right to an environment that is not harmful to his or her health or well-being and to have the environment protected, for the benefit of the present and future generations, through reasonable legislative measures that:

- a. prevent pollution and ecological degradation
- b. promote conservation and
- c. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development'.

The public should be given access to environmental information that the government and relevant agencies possess in line with the Promotion of Access to Information Act (Act 2 of 2000). This is in accordance with national and international laws concerning access, transparency and appropriate handling of confidential or protected information. Empowering the citizens and NGOs with information as recommended, and involving them in the decision-making process, expands the knowledge base and resources for developing laws and policies, as well as for improving compliance, implementation and enforcement of these laws.

One strategy for implementing the policy of public access to information which first gained international support at the 1992 Earth Summit (via the Rio Declaration Principle 10 and Agenda 21) is through the requirements for environmental impact assessments (EIAs). Many states in the world today have EIA laws or regulations. These laws require that an environmental impact assessment be completed before an action that might affect the environment significantly, is undertaken. The laws also typically provide for

varying degrees of public involvement: from access to the impact assessment to allowing public input and commentary on the assessment before the planned action commences.

It therefore remains the obligation of the government to ensure that its citizens in all corners of the country enjoy their right to information about the environment. The National Environmental Management Act of 1998 reveals in more detail what kind of information one can get from the government or private persons about the environment. It becomes evident that the government has a bigger role to play in ensuring that information on environmental programmes is disseminated to the rural communities in a more accessible and effective way.

To establish whether government is meeting its objective to deliver environmental programmes and campaigns to every corner of South Africa, the small village of Masibekela situated in one of those corners has been selected as a case study (Figures 3.1 and 3.3).

1.2 STATEMENT OF THE PROBLEM

The sight of environmental degradation is a common phenomenon particularly in rural areas of developing countries such as South Africa. The prevalence of environmental problems is often attributed to poverty and lack of job opportunities. Fuggle and Rabie (1996:1) state that 'there are two common components associated with environmental deterioration. One is the depletion of essential resources for the maintenance of present-day life styles. The other one is the deterioration and destruction of natural processes which ultimately sustain life on Earth. Both are aggravated by an increasing human population. Our times are different from any other in history because of the rates at which we are using resources, modifying natural systems and increasing our numbers'. South Africa is a signatory to numerous environmental conventions and as a means to support international

recommendations for enhancing awareness, it has introduced a number of environmental programmes such as National Wetlands Day, Biodiversity Day, World Environment Day and many more.

One hopes that if these programmes can be introduced to communities such as Masibekela, they can play the vital role of educating community members and over time combating a number of environmental problems such as water pollution, dumping, littering and deforestation, which are common within the study area.

According to Fuggle and Rabie (1996) the issue of the relationship between human beings and their surrounding environment has become a topic of global and widespread concern particularly in the second half of the 20th century. Numerous books and journals have been published and many governments have issued environmental policy statements. Regions worldwide reiterated the moral responsibility of human beings towards the Earth or the environment.

Following the dawn of democracy in South Africa and the government's introduction of a number of environmental programmes aimed at making the population aware of their actions in relation to the environment, 'the 2007 State of the Environment Report is quite revealing in reminding us of the damage we continue to inflict on our environment and it highlights the deteriorating condition of the South African environment. A right to a healthy environment is enshrined in the Constitution. Although we recognise the role of other departments, we respond directly to Outcome 10 which demands of us to protect and enhance our environmental assets and natural resources' (Sonjica 2010:2). On paper, the government seems to be increasingly concerned about environmental issues but there is little evidence of concerted and practical efforts to combat environmental deterioration, particularly in rural areas.

One problem that contributes towards environmental degradation is attributed to non-provision of environmental programmes by government and non-governmental organisations. If environmental programmes can be better handled and offered to communities in a satisfactory, acceptable way, they would promote environmental education since they have the potential to do so. This would ultimately lead to abatement of environmental degradation.

Because South Africa is now a democratic state, one might expect a growing public awareness of environmental issues meaning that the government has given environmental concerns high priority status at all levels of decision making. Government should have become more transparent and should have provided adequate opportunities for participation in environmental governance. Under the previous apartheid regime, the majority of South Africans were insignificant political stakeholders, hence they did not enjoy environmental rights as remains the case in the current democratic dispensation. It is now an inherent right of all citizens to have information about the environment so that they can play a meaningful role in environmental care.

Promoting environmental understanding will increase the capacity of rural dwellers to participate more effectively in environmental decision making because they will become more conscious of the consequences of their daily activities. The Constitution of South Africa is unequivocal about the rights of citizens to have access to a clean and healthy environment. With a number of environmental problems such as soil pollution, dumping, littering, water pollution and deforestation prevalent within the study area, a major question arises as to whether the provision of environmental programmes to the community can remedy the environmental degradation in the area.

1.3 RESEARCH QUESTIONS

In the initial stages of this research project, many questions arose. Listed below are only some of the possible routes of enquiry that could be followed. In order to narrow the proposal down to a manageable investigation, these have been taken as the focus of the research objectives stated in the next section.

- a. Can environmental problems within the study area be attributed to non-delivery of environment programmes?
- b. Can the delivery of environmental programmes contribute towards reversal of environmental degradation in the study area?
- c. Is non-exposure of community members to environmental programmes a contributory factor to environmental degradation?
- d. Is the provision of environmental programmes alone the best tool in combating environmental degradation in Masibekela village?
- e. Is the community of Masibekela well catered for in terms of the provision of environmental programmes aimed at environmental education and awareness and eradication of environmental degradation?

1.4 OBJECTIVES OF THE STUDY

These are the objectives of the study:

- a. to ascertain the opinions of community members about the current state of degradation in the study area
- b. to establish if environmental programmes and information reach the community selected as the study area and, if not, to establish reasons for this
- c. to access the opinions of the rural dwellers in the study area as to how environmental programmes can benefit the area.

1.5 DEFINITION OF TERMS

The key terms used in the study are explained.

1.5.1 ENVIRONMENT

In the White Paper on Environmental Management Policy (1997:5), the word environment refers to 'the conditions and influences under which any individual or thing exists, lives or develops. These conditions and influences are:

- a. the natural environment including renewable and non-renewable natural resources such as air, water, land and all forms of life
- b. the social, political, cultural, economic, working and other factors that determine people's place in and influence on the environment
- c. natural and constructed spatial surroundings, including urban and rural landscapes and places of cultural significance, ecosystems and the qualities that contribute to their value'.

The National Environmental Management Act of 1998:2 defines the word environment as 'the natural environment and the physical, chemical, aesthetic and cultural properties of it that influence human health and well-being'.

Ngcobo et al. (2006:24) define the word environment to mean 'the surroundings within which humans exist and that are made up of:

- a. the land, water and atmosphere of the Earth
- b. micro-organisms, plant and animal life
- c. any part or combination of a. and b. and the interrelationships among and between them
- d. the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Unlike past concepts of the environment that focused on animals and trees, what this implies is that human beings are an integral element of the environment. Humans impact on the environment and in turn, environmental

factors influence our daily lives’.

Because it has been conducted in a rural setting, in this study the word ‘environment’ will be used to mean the following natural resources, namely: water, land, plants and air.

1.5.2 ENVIRONMENTAL CAMPAIGNS, EVENTS AND PROGRAMMES

The Director responsible for the Directorate of Environmental Awareness and Education in Mpumalanga Provincial Department of Agriculture, Land Administration and Environmental Affairs defines these terms as follows (de Lange, pers. com.). The researcher elected to follow these interpretations of terms given to the issues that are investigated.

i) ENVIRONMENTAL CAMPAIGN

The informal distribution of environmental information (this includes physically handing out of newsletters or using a set of media messages) with the aim of raising environmental awareness.

ii) ENVIRONMENTAL EVENT

An environmental event is only one attribute of an environmental campaign. So an environmental event can be described as a public assembly for the purpose of celebration of environmental campaigns.

iii) ENVIRONMENTAL PROGRAMME

An environmental programme is a formal and planned sequence and combination of various kinds of activities designed to achieve specified environmental goals. For example a series of workshops can be convened in order to educate people about their environment.

1.5.3 ENVIRONMENTAL DEGRADATION

The United Nations International Strategy for Disaster Reduction (1990:12) defines environmental degradation as 'the reduction of the capacity of the environment to meet social and ecological objectives and needs'.

Environmental degradation is also defined as 'a process wherein the natural environment of the planet is degenerated to such an extent that the biodiversity and the general health of the planet is subjected to drastic reduction' (World Commission on Environment and Development, 1987:54). In other words, this phenomenon can be defined as deterioration of Earth's natural surroundings as a result of excessive exploitation of available resources. These resources include, amongst other things water, air, flora, fauna and soil.

In this study the word 'environmental degradation' will mean the deterioration in appearance, quality or productivity of water, land, plants and air.

1.5.4 ENVIRONMENTAL EDUCATION

The International Union on Conservation of Nature (1971) defines environmental education 'as the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness amongst people, their culture and their

biophysical surroundings. Environmental education also entails practice in decision making and self-formulation of a code of behaviour about issues concerning environmental quality. The strength of this statement is that it embraces what many, if not most, environmental educators regard as the essential elements of the concept i.e.

- a. the inter-relatedness of people, their culture and their biophysical surroundings
- b. the people hold values and attitudes which inter alia relate to the environment and to behaviour towards the environment
- c. that skills, including decision making and the formulation of norms, are an integral aspect.

Thus, educationally speaking, environmental education is a holistic approach involving all three domains of human development; the cognitive, the affective and the psychomotor' (Irwin, 1991:15).

Irwin (1991) summarises the above description of environmental education as a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action.

More recently Masoom (2012) defined environmental education as the systematic study of the natural and man-made world. Environmental education has emerged as a major discipline in recent years, reflecting our growing concern about the impact of human activity on the natural world. He appears to encroach on Geography as he claims that the environment is composed of a number of interconnected processes and phenomena such as the formation of rocks, the climate systems, the cycling of biologically important elements, and the interaction between organisms and their surroundings.

For the purpose of this study the term 'environmental education' is limited to mean enlightening and making people aware of environmental issues only. It is not used to include the training components of developing skills and

expertise, nor changing attitudes and motivation.

1.5.5 ENVIRONMENTAL GOVERNANCE

According to the National Youth Commission and Department of Environmental Affairs and Tourism (2006:20), environmental governance refers to 'the processes of decision-making involved in the control and management of the environment and natural resources by governments, companies, local communities, NGOs, individuals and multilateral bodies. Environmental governance is only effective if it leads to fair and sustainable management of environmental resources. The most readily available indicators of environmental governance relate to environmental management: the number of international agreements that have been ratified and the number of development plans that incorporate Integrated Environmental Management'.

'Environmental governance is concerned with the interaction between government and civil institutions and factors that influence how the environment is managed while constraints and negative impacts are reduced or eliminated' (Salih 1997:141). In short, environmental governance is how environmental problems are framed and identified and how relevant policies and Acts are developed and implemented. Salih (1997) further argues that in common with other areas of governance, environmental governance could be defined as the exercise of political, economic and administrative authority to manage a nation's environmental affairs.

The term 'environmental governance' will be used in this study to refer to the activities of government in collaboration with other stakeholders in crafting policies for environmental management but does not go as far as environmental management policy implementation. However, for communities to participate in environmental governance they have to be made aware of their rights and responsibilities regarding the environment. This study reviews

the implementation of environmental communication policies using a small rural village as the focus area.

Implementation of advanced plans for environmental rehabilitation falls under the scope of high level environmental governance. Such an investigation would fall better into the scope of doctoral research.

1.6 DETAILED SCHEDULE FOR THE ENTIRE RESEARCH PROJECT

Table 1.1 Time frame for the research project

TASK	TIME
2011	
Initial Research Proposal	February - April
Research proposal submitted	May - June
Research proposal reworked	July
Research proposal submitted to the supervisors	August
Corrected and submitted to Ethics Committee then Research Committee	September - October
Worked on literature review	November
Data collection Sector manager and 123 traditional leadership and community members	December
2012	
Data collection 1. 88 traditional leadership and community members 2. 45 educators 3. 127 learners	January
Worked on literature review	February-June
Data collection 1. 64 traditional leadership and community members 2. 49 learners	July
Final literature review submitted and approved	August-September
Data processed	October-December
2013	
Data analysed and interpreted	January-February
Chapter on data analysis and interpretation submitted	March
Chapter on findings, recommendations and conclusion	April
Chapters 1-5 aligned	May - June

TASK	TIME
Chapter 1-5 final document submitted to supervisors	July-August
Dissertation refined	September-October
Wrapped up, bound and final copies distributed	November
The study took approximately 33 months to complete	

1.7 SIGNIFICANCE OF THE STUDY

According to Fuggle and Rabie (1996:11) 'concern for the environment is a modern-day social phenomenon'. Governments, in collaboration with NGOs, have, over the past few decades, held international summits and ratified a number of international treaties aimed at managing environmental resources. A relevant example in this regard was the World Summit on Sustainable Development which was held in Johannesburg in 2002. Delegates at the summit took a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development, economic development, social development and environmental protection at local, national, regional and global levels.

This study is considered as a tool not only in acquainting rural dwellers about environmental issues and the importance of their (rural people) participation, it will also inculcate a sense of caring towards the environment, in this way hopefully minimizing environmental problems in the future.

This study has the potential to assist the South African government in two ways: to assess whether their environmental programmes and campaigns are in fact reaching all corners of the country and by providing guidelines to ensure that its environmental programmes are accessible to rural communities in the country. The White Paper on Environmental Management for South Africa (1997) proposes that the government must become more transparent and provide adequate opportunity for participation in environmental governance.

1.8 LIMITATIONS

This research project, just like any other research project, did not envisage providing all the answers related to the adequate provision of environmental programmes to rural communities, nevertheless any contribution to knowledge, however small, is valuable.

Given the fact that the study area is faced with a high level of illiteracy, the researcher confronted some difficulties on the part of the community members with filling in the questionnaires. This aspect of data collection on its own consumed a considerable amount of time, hence the entire data collection process, in one way or another, tended to move at a snail's pace.

1.9 CONCLUSION

The chapter basically highlighted the objectives, significance of the study, its time frame and the limitations to the study. The provision of environmental programmes and campaigns should not be squarely only the government's responsibility, other relevant non-governmental bodies and institutions need to take part in supporting the government in ensuring that rural dwellers acquaint themselves with environmental programmes and become conscious of the consequences of their daily activities in relation to the environment.

The next chapter details how data was gathered within the study area, what sampling methods were followed as well as the degree of reliability and validity.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Over the last few years, a number of books and articles in a variety of journals have been published highlighting the relationship between human beings and their surrounding environment. Fuggle and Rabie's seminal work (1996) covered a wide range of topics such as the rise of environmental concern and the nature of relationships between human beings and environment. Although this work is seventeen years old, it is still an invaluable document that pioneered issue of environmental concern and is subsequently still widely used in South Africa. Hungerford (2010) in the *Journal of Environmental Education*, Darnall and Carmin (2005) in the *Journal of Policy Sciences* and Alberini and Segerson (2002) in the *Journal of Environmental and Resource Economics* are others who outline the relationship between human beings and their environment. In particular, they stress the relevance of environmental campaigns as a mechanism for improving environmental education and awareness.

Many countries around the globe have appealing strategies aimed at the provision of environmental programmes and campaigns. Trinidad and Tobago offer two environmental campaigns, namely, a public speaking competition and a walk-a-thon (Ham, 1992). According to the United Nations (UN:1992), Swaziland has a programme known as Yonge Nawe while Uganda has the National Environmental Management Authority which is a custodian of all environmental and developmental issues in that country (Caldwell, 1999). The prime purpose of these programmes and campaigns is to disseminate environmental education and awareness. In a nutshell this chapter will look into what African and other countries around the world are doing in an attempt to provide environmental programmes and campaigns. The chapter will also pay attention to the global crisis attributed to climate change.

Climate change remains a serious threat confronted by the world in the 21st century, deservedly receiving attention in an examination of global environmental programmes.

An attempt is made to establish what is being done to inform and educate people through the provision of environmental programmes, campaigns and events. From 28 November to 9 December 2011 the spotlight was on South Africa as it hosted the United Nation's Conference of Parties (COP) commonly known as COP 17 which was held in Durban in KwaZulu Natal Province.

2.2 THE ROOTS AND RISE OF ENVIRONMENTAL CONCERN

Fuggle and Rabie (1996:11) contend that 'it is common cause that concern for the environment is a modern-day social phenomenon. Throughout the world governments, international organizations, major corporations as well as ordinary citizens are insisting that planning and decisions must take cognizance of the impact of human actions on the environment. The rise of this concern has not been without setbacks or variation in opinion, nor has it been a steady linear process.' They also state that 'in South Africa former President Paul Kruger established a game reserve in the Pongola area in 1894. In 1897 four game reserves were proclaimed in Zululand; three of them, Umfolozi, Hluhluwe and St Lucia, still exist today'.

Many environmental groups are active in these areas as evidenced in various forms of media such as newspaper reports, articles and campaigns, and radio and television programmes and in the increasing number of environmentally-focused conferences.

Fuggle and Rabie (1996:11) also draw attention to the fact that 'environmental concern at official level is manifested through a variety of indicators such as departmental and other official reports, governmental White Papers, the reports of commissions of inquiry and parliamentary

debates. It is also demonstrated regularly through the administrative actions of governmental bodies at national, regional and local level. Perhaps the most important reflection of official environmental concern is the law. The promotion of public interest in environmental conservation is rendered possible through the law, which authorizes or obliges public bodies to undertake appropriate actions'. These practices remain part of government initiatives.

2.3 ENVIRONMENTAL EDUCATION PROGRAMMES PRE-1994 SOUTH AFRICA

According to Loubser (2005:49) 'a pioneering role in the practice of environmental education in South Africa was played by NGOs and by the former provincial conservation agencies, which found little resonance for ideas on environmental education in their corresponding provincial education counterparts'. Organizations such as Wilderness Leadership School and Wildlife Society of South Africa (WESSA) started educating people about their environmental responsibilities. They began to set up environmental programmes to put these ideas into effect. The Umgeni Valley Project (UVP), started in Natal in 1975, played a major and innovative role in the development of environmental education practice and theory in South Africa. Today the UVP remains in many aspects a model for other NGOs.

Loubser (2005:50) states that 'two of the most successful environmental programmes in South Africa, in two different contexts, were those of Bophuthatswana and of the National Environmental Awareness Council (NEAC), an NGO in Soweto'. In Bophuthatswana, which was one of the homeland states that was reincorporated into South Africa after 1994 and now forms most of the North West Province, there was uniquely close cooperation between the homeland Ministry of Education, the Bophuthatswana National Parks Board and teacher education institutions. Programmes such as the Lengau Wildlife Clubs were so successful that there

was strong evidence of environmental awareness, concern and action in some of the most remote rural villages and schools in that territory.

The former University of Bophuthatswana (now North West University) offered environmental courses and programmes for teachers and decision makers both at undergraduate and postgraduate levels since its inception. With the post-1994 political changes, these programmes were regrettably not always sustained. Other early players include Rhodes University, University of South Africa and the University of Stellenbosch. In the late 1980s and early 1990s, these institutions established Environmental Education within their faculties of Education and Environmental Education now forms an integral part of their teacher education programmes.

2.4 POST-APARTHEID ENVIRONMENTAL INITIATIVES BY THE SOUTH AFRICAN GOVERNMENT

According to Hoffman and Ashwe (2001:39) 'a major concern of the ANC government after 1994 was to create a single South African nation out of the patchwork of provinces, homelands and self-governing territories and begin the long process of reconstruction and development. Principles of integration, access, participatory decision-making and empowerment characterised South African environmental initiatives during the 1990s, particularly after 1994. The Reconstruction and Development Programme (RDP) stimulated numerous projects to address the legacy of apartheid. The needs of environment and development started to be considered together.

As alluded to in Chapter 2.2, the South African government devised measures aimed at entrenching the environmental rights of its citizens in the Constitution. Apart from the entrenchment of environmental rights the democratic government also introduced the Promotion of Information Act 2 of 2002.

In 1997 work started on a National Curriculum Statement (NCS) which was implemented from 2000. The Department of Education streamlined and strengthened its curriculum named the Revised National Curriculum Statement (RNCS) 2005 with subsequent adjustments. This led to the defining of environment as a cross-curricular phase organiser in Curriculum 2005. It required all teachers in all learning areas to consider an environmental focus up to Grade 9. Subjects in the Further Education and Training (FET) band for Grades 10 to 12 also follow a curriculum with an environmental focus. The environmental theme is further entrenched in a Curriculum and Assessment Policy Statement (CAPS) released in 2011 (DBE: 2011) to guide learning material developers, educators and examiners.

Deputy Minister of Environmental Affairs, Ms Mabudafhasi in her speech on the occasion to celebrate World Environmental Day on 05 June 2012 stated that 'public awareness and education is implemented through school based and community outreach programmes. Through our Environmental Youth Development, we have trained two hundred and six unemployed youth on environmental management who are placed in different municipalities. Furthermore twelve young people were employed and trained on integrated environmental management towards the rollout of environmental education and awareness programmes'.

2.5 ENVIRONMENTAL EDUCATION IN THE GOVERNMENT SECTOR

According to Loubser (2005) environmental education is not usually high on the agenda of the South African government. However the Departments of Environmental Affairs and Tourism, Health, Forestry, Water Affairs and Education have individually and collectively launched various environmental education projects. These departments also produced useful resources for the public, teachers and school learners. These resources are in the form of booklets, newsletters, magazines, and the like.

Coyle (2005) reveals that Americans love to hate or at least mistrust the government. But when it comes to environmental protection, they see the government as playing an important role. A majority of these Americans also think that more funding should be shifted to environmental programmes. Much national debate in the United States occurs over the need for and scope of environmental laws. These laws have both environmental and economic impact. Most Americans feel that all spheres of government (federal, state and local) should have some responsibilities for protecting the environment.

2.6 COLLABORATIVE ENVIRONMENTAL MANAGEMENT: WHAT ROLE FOR GOVERNMENT?

Koontz et al. (2005) contend that for more than a decade, governments, NGOs and institutions have been ushering in a new era of environmental policy based on increasingly participatory decision making and collaboration among diverse stakeholder groups. Advocates of collaboration argue that it provides a means to overcome environmental conflicts, push beyond political polarization and address complex environmental problems. Questions are raised as to whether collaborative environmental management can in fact be an alternative to traditional expert-driven regulatory approaches. Koontz et al. (2005) proceed to highlight the importance of governments in environmental collaboration with other stakeholders.

2.7 HANDLING OF ENVIRONMENTAL ISSUES

The United Nations Declaration on Environment (1992:2) states that 'environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making

processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided'.

In line with this declaration, the South African government is attempting to fulfil an appropriate role in matters of environmental responsibility but the effectiveness of their attempts needs to be assessed.

2.8 ASSESSING EFFECTIVENESS OF VOLUNTARY ENVIRONMENTAL PROGRAMMES

According to Alberini and Segerson (2002:157) 'the last decade in Netherlands has seen a dramatic increase in the use of voluntary approaches (VAs) to environmental protection, which has spurred a growing literature on the relative merits of voluntary versus mandatory approaches'. For a VA to be successful there should be some net benefit or gain that respondents will realize in their participation. Alberini and Segerson (2002) mention some of the benefits as follows:

i) ENVIRONMENTAL STEWARDSHIP

Participation in voluntary programmes may be motivated by environmental stewardship, i.e., personal satisfaction or utility gained from undertaking to protect the environment

ii) GOVERNMENT-CREATED INCENTIVES

For firms to increase profits through environmental protection, the government needs to play an active role in promoting environmental measures. Positive incentives for voluntary abatement usually take the form of reduction in tax or the right to claim the costs of implementing environmental initiatives.

Darnall and Carmin (2005:71) argue that 'in recent years in the United States of America, traditional command and control approaches to environmental regulation have been criticized for being inefficient. A number of public policy instruments have been developed as supplements and potential alternatives to traditional regulatory approaches. One such instrument, the voluntary environmental program (VEP), is designed to provide respondents with incentives to improve their environmental performance. By the late 1990s, estimates suggested that more than 13 000 companies were participating in the VEPs and this has continued to grow'.

2.9 DESIGNING ENVIRONMENTAL CAMPAIGNS AND STRATEGIES FOR CHANGING ENVIRONMENTAL ATTITUDES

Mosler and Martens (2008) point out that the Global Environmental Outlook (GEO) report initiated by the United Nations Environment Programme (UNEP, 2000) indicates that modern industrial economies are causing environmental damage. The GEO report proposed integrating the environment into mainstream thinking and increasing public participation in environmental actions. Every kind of campaign must try to induce behavioural change in individual subjects. Optimizing an environmental campaign has never been easy but tailoring each campaign very specifically to local characteristics is recommended. Mosler and Martens (2008) further argue that a campaign should clearly be effective at community level and each individual member of the community should ultimately be influenced.

2.10 PROPOSALS BY THE UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP) TO PROMOTE ENVIRONMENTAL CAMPAIGNS, PROGRAMMES AND INFORMATION

The UNEP (2007) report on Public Environmental Awareness and Education argues that action can be taken in a variety of areas to increase environmental awareness and education. These can be environmental legal rights and responsibilities and associated consequences, use of the media, awareness raising campaigns, incorporation of environmental issues in mainstream education, increasing awareness and education in target groups and encouragement of public participation in environmental matters.

Educational and awareness efforts can target practically any sector of society. They can seek to raise public awareness broadly on environmental issues through the media, or they might use a targeted campaign focused on a specific sector or might target a broad audience on a specific issue.

Environmental programmes and campaigns for awareness and education initiatives require funding that must come from a variety of sources. Specific departments such as Water and Environmental Affairs should set aside funds for promotion of programmes, campaigns and events.

The UNEP Report (2007) proposes that environmental education and awareness raising may include any of the following types of activities:

- a. reorienting current education and awareness programmes to include environmental dimensions
- b. basic education and awareness programmes (e.g. in schools)
- c. adult and community education and awareness programmes
- d. education, training, and awareness programmes for professional, technical and vocational personnel.

According to the UNEP Report (2007) many sectors of society are involved in developing and delivering educational courses and public awareness campaigns. These include governmental institutions at the national, regional and local levels, domestic and international NGOs, primary, secondary and post-secondary schools, journalists and the media, celebrities and other individuals and institutions.

i) WORKING WITH MEDIA

In terms of the UNEP Report (2007), media such as print, broadcast and internet can be a powerful ally in educating the public on environmental matters. In order to perform this role effectively, it is often necessary for the government to work with the media (and sometimes to educate the media). This is often done informally through regular briefings at information centres. Some states have found that educating the media can be quite effective in building capacity to report on environmental matters. The government has to work closely with the mass media to build its environmental reporting capacity through regular press conferences and large public awareness campaigns.

The UNEP Report (2007) further argues that capacity building efforts can provide journalists with basic environmental information. Information centres that are accessible to the media and to the public constitute one approach. These centres can be run by a governmental agency or ministry (e.g. in Bulgaria, Croatia and Macedonia) or by an NGO such as in Romania. An information centre may disseminate recent information such as press releases, have a public library with a range of environmental resources and actively disseminate information.

ii) EDUCATING COMMUNITY AND TRADITIONAL LEADERS

Traditional, religious and local community leaders can play an influential or even decisive role in how people act. This is particularly true in rural areas. Working with such leaders might require special attention to be paid to issues of language, literacy, clarity and plain language. Guidelines include the following:

- a. educational materials may be more accessible if they are in the local language; translation can greatly increase the costs, but it may be necessary to consider whether limited translation might make the material functionally accessible
- b. posters, radio presentations and other approaches may be advisable if the local population or leaders have limited literacy
- c. the materials should be easily understood, particularly if they are written in what may be a person's second or third language; short sentences, simple words and active verbs are recommended.

iii) CELEBRITIES INVOLVED IN ENVIRONMENTAL CAMPAIGNS

The UNEP Report (2007) further proposes the involvement of well-known people and respected figures in any advertisement or public awareness campaign. Effective use of the media can be a potent way of increasing understanding of the importance of environmental issues and enforcement.

'Environmental and animal rights groups have been quick to recognize the value of having a celebrity or two front their campaigns (particularly if the cause is fashionable in the circles in which the stars move.) They know even a less popular celebrity can mobilize at least a few thousand supporters and help attract the attention of television news producers and newspaper columnists looking to feed the mass media beast' (<http://osqar.suncor.com/2012/01/celebrity-involvement-in-the-energy-debate-style-or-substance.html>, accessed 23 February 2012).

A prominent South African celebrity, former wicketkeeper and an active conservationist, Mark Boucher, on 8 August 2012 announced that despite his retirement from international cricket, he would continue to be visible on the international stage with a new and personal project aimed at helping to save South Africa's rhino population from extinction.

Speaking at his first public appearance after announcing his retirement, Boucher, together with The South African Breweries (SAB), in October 2012 launched the SAB-Boucher Non-Profit Company (NPC). Supporters of SAB-Boucher Conservation include prominent South Africans such as Archbishop Emeritus Desmond Tutu, former cricket administrator Dr Ali Bacher, former SANParks CEO Mavuso Msimang, renowned conservationist Dr Ian Player, and scientific officer of the African Rhino Specialist Group Dr Richard Emslie. The NPC aims to raise enough money to register South Africa's 18 000 rhinos on the DNA database established and run by the Veterinary Genetics Laboratory (VGL) at the Faculty of Veterinary Science, University of Pretoria at Onderstepoort. The initial target is to raise R1-million.

Since the escalation in poaching of South Africa's rhinos, there have been numerous organisations set up to combat the problem. However, the poaching of rhinos continues at an alarming rate. In 2011, a total of 448 rhinos were poached and the figure for 2012 around August stood at more than 240. While a number of arrests have been made in connection with this illegal activity, the problem persists.

A DNA laboratory was established in 2010 to assist law enforcement in tracking down poachers and syndicates which are preying on the country's precious wildlife. Since its introduction, the system has been used to successfully prosecute suspects of rhino poaching.

Appointed by SAB as its Castle Lager Rhino Ambassador, Boucher hopes to raise funds both locally and abroad through the 'Our Rhinos in Safe Hands' campaign. While the SAB-Boucher NPC initially focuses on its most pressing

concern, namely the safety of South Africa's rhino, it is expected to expand its reach in future to other species under threat, whose DNA will be included in the database.

The following useful and important information sourced from their website, (www.sabmiller.com/index.asp?pageid=149&newsid=1976, accessed on 09 August 2013), indicates that Andre Fourie, SAB Head of Sustainable Development says that 'SAB has a long history of investing in wildlife conservation in the country. This specific project aims to put in place a sound management system to protect the vulnerable rhino population. For SAB it makes sense to combine the broad popularity of the Castle Lager brand and the personal passion and integrity of Mark Boucher in the fight against rhino poaching'.

Another website (allafrica.com/view/resource/main/main/id/00051288.html, accessed 07 August 2013) provides a crucial example of using celebrities to raise environmental awareness in the fight against the chemical pollution of rivers. Around the world, more and more consumers, activists and fashionistas are uniting behind the idea that the clothes they buy should carry a story they can be proud of, not the residues of hazardous chemicals. In South Africa, several musical celebrities have come together to join Greenpeace in their international Detox Campaign urging the fashion industry to detox its clothing lines.

Lu Dlamini, Madala Kunene, Sazi Dlamini, Pinkie Mtchali, Poppy Seed, Nibs Van Der Spy, Guy Buttery, Andy Small, Lee Vaughn and hip-hop sensation 3rd Wave all believe in buying proud and buying sustainably. What they wear should not have a negative impact on water systems. Water pollution is an urgent issue affecting millions of people around the world. They are raising awareness that when consumers support a big brand's dirty secret and the profit-driven fashion industry forces them to wear toxic clothes that this leads to toxic water pollution. Brands can end the secrecy by insisting that their suppliers publicly divulge what chemicals are being discharged and by

committing their brand and their supply chain to zero discharge of hazardous chemicals. The celebrities are challenging Levi's to stand by its honourable intentions, act on the problem of toxic discharge and rise to the challenge of detoxifying its production lines.

2.11 MEDIA STRATEGIES IN PROMOTION OF ENVIRONMENTAL CAMPAIGNS

Coyle (2005) argues that, on one hand, his analysis could lead someone to see the media more as a menace to environmental education than as a source of support. Falk, as quoted by Coyle (2005:45), 'believes that people are not only naturally curious but have avid learning responses to nearly anything that galvanizes their interest. Falk points out that while schools are a vitally important learning venue, on average, they deliver just three to seven per cent of the average person's education over a lifetime. Thus, over 90% of lifetime learning takes place outside school on subjects that matter to people intensely. People continue to learn avidly and efficiently throughout their lives'. In essence it is Falk's conviction that, although the media is better placed in comparison to schools, the media is not doing enough to promote environmental programmes and campaigns, hence supporting Coyle's (2005) conclusion that the media is a menace to environmental education.

On the other hand Coyle (2005) maintains however, that the media offers a number of opportunities to strengthen environmental literacy such as media coverage of issues raising awareness and being familiar with on-going environmental problems. Coyle (2005) further maintains that in-depth TV documentaries or newspaper articles can provide a more detailed understanding of an environmental issue. Media coverage can generate a feeling of larger communal support for action, helping individuals feel that their actions make a difference, thereby eliciting more environmentally-friendly behaviour.

Hobert et al. (2003) undertook a study which examined the impact of television on awareness and on changing environmental behaviours. The study examined both news reporting and documentaries (factual-based television) and more entertainment-oriented media such as situation comedies. It found that factual-based programming has a positive influence in creating a greater desire within individuals to recycle, purchase products that are environmentally friendly, and be more energy efficient in their daily routines. By contrast, fictional-based programming did not have a positive effect on environmental behaviours.

Hobert et al. (2003) highlight that a promising but underutilized element of television is weathercasters. Weathercasters can use their unique positions and skills to educate people on environmental conditions. Their combination of science expertise, frequent use of graphics, and a high level of public trust makes them ideal science and environment ambassadors to the public. Fully 80% of all adult Americans, including community leaders, watch the news primarily to see the weather.

2.12 RUSSIA'S ENVIRONMENTAL ENDEAVOURS AND POTENTIAL OF NEWSPAPERS AS ENVIRONMENTAL MEDIA

Agyeman and Ogneva-Himmelberger (2009) contend that small regional newspapers are widely read by locals. They have proven to be an effective means of communication in Russia. White (2006) notes that even though circulation for such newspapers is in decline in regions throughout Siberia, actual readership is constant. The residents cannot afford not to read these newspapers because a sense of ownership has developed. They regard these newspapers as their own. Municipal offices and their employees receive weekly copies of these newspapers which are also available to visitors to the municipal offices.

Home-delivered copies also reach multiple readers. White (2006) indicates that at least four out of six people read each newspaper delivered in Tunka. Anderson (1983) contends that newspapers are a highly effective mechanism for informing a population. They are helping to create a sense of shared identity. They have the potential to provide direct and immediate communication of social problems and solutions.

The world today appears much smaller than what it originally did, this is attributed to the development of communication methods and skills. Newspapers form the major vehicle of these communication systems which have helped the society change for better, over the years. Newspapers can always play a significant role in arousing the environmental awareness amongst members of any community.

Ledeneva (1998), Pesmen (2000) and White (2006) share the same sentiment that the social networks that existed in the Soviet Union, have been an effective means for accessing information, goods and services in post-Soviet Russia. The social consciousness and organizational skills used by many activists are also derived from Soviet practices (Yurchak 2003). Phillips (2005) demonstrates that female leaders can take up personally meaningful causes, especially where they feel the government has failed to protect them.

Agyeman and Ogneva-Himmelberger (2009) described how the level of public participation in environmental campaigns had changed over the fifteen years prior to the publication of their article in the former Soviet Union. Various citizen initiatives, social movements, voluntary associations and groups have emerged. All of these have one common goal or aim to defend a particular common environmental interest through collaboration. All these structures encouraged citizen participation in environmental matters whereby an individual appreciates working jointly with other individuals, groups or structures.

2.13 ENVIRONMENTAL AWARENESS CAMPAIGNS IN INDIA

The Organisation for Social Awareness and Illumination (OSAI) which is an environmental movement in India is involved in an on-going process of creating and fostering conservation and environmental protection not only in various educational institutions, but also among the under-privileged sections of society where environment was hitherto an unknown entity. In terms of the information sourced from their website (www.greenosai.org/our-activities/awareness-campaigns.html, accessed 11 November 2011), 'OSAI strongly believes that the common man is the biggest stakeholder in the environment. Efforts to protect the environment are not only a responsibility of intellectuals but even the well-informed common man. Based on this belief, OSAI has imparted environmental awareness among 121 villages, 118 colleges, and 110 schools. The objective of this campaign was to create a new generation of eco-conscious citizens who will crusade for the cause of eco-conservation in future. In order to reach out to the person in the remotest part of the state, various campaigns had been launched such as a Green Walk and Save Vattamalai Odaikkarai Wetland'.

2.14 ENVIRONMENTAL ISSUES AT SCHOOL LEVEL

2.14.1 EARLY INTRODUCTION OF ENVIRONMENTAL STUDIES IN SCHOOLS

A dozen years ago, Irwin (1991:8) argued that there is a need for 'close co-operation among the Department of Education, National Parks Board, teacher training institutions and schools which aims at the promotion of environmental programmes in South Africa'. There is a feeling that environmental studies must be introduced at schools at an early stage of education. This will help learners to be environmentally conscious and to discover the symptoms and real causes of environmental problems.

More recently, Masoom (2012) argued that there is a need for teaching environmental education at the primary school level. The pattern of interaction between man and environment dictates that people behave in an environmentally responsible way. An actual change in this regard may therefore require a degree of change in understanding as well as in attitudes. Education is one of the ways in which moral values and positions are developed in society. Education in environmental issues in schools would help to create an educated citizenry capable of making the decisions that will decide the future of the next generation.

Masoom (2012) further states that environmental education has the purpose of developing knowledge and understanding about values and attitudes. Education for the environment encourages children to explore their environment, so as to form an idea about their relationship with the environment and environmental issues. This is linked to the development of attitudes, values and responsible behaviour necessary for sustainable and caring use of the environment. Education in or through the environment involves the use of environment as a resource for learning. This helps in the development of knowledge and understanding along with skills of investigation and communication.

2.14.2 ENVIRONMENTAL AWARENESS IN TEACHING PROGRAMMES

The UNEP Report (2007) states that environmental awareness is not always a prominent feature of education programmes in institutions of primary or higher learning. The United Nation's Agenda 21 states that 'education is critical for promoting sustainable development and improving the capacity of people to address environmental and developmental issues. Moreover, education is stated to be an indispensable means of achieving environmental and ethical awareness, values and attitudes, skills and behaviour'(UNEP 2007:2).

Dube (2013:4) argues that 'better teaching and learning of environmental education and education for sustainable development (ESD) in schools is one of the responses to the worsening state of the global environment in the 21st century. However, a shortage of resources, limited class time, large classes, deteriorating discipline, heavy workload and policy contradictions are hampering this process in South Africa'.

Dube (2013) further indicates the integration of environmental concerns in the new curriculum was one of the most important educational innovations that occurred after the inception of democratic rule in South Africa. Geography can assist to impart the knowledge, skills, values and behaviour required to protect the environment and is regarded as a most important vehicle for teaching environmental education and education for sustainable development. Of major concern is the discovery that many educators still struggle to make sense of the meaning of environmental education, sustainable development and education for sustainable development. Educators remain central in the implementation of curriculum innovations such as incorporation of environmental concerns in schools since they are agents of change.

According to Masoom (2012) education about the environment, through the environment and for environmental protection will make individuals realize their responsibility towards the total environment. Environmental protection has been included as one of the ten common core components of the curriculum for all stages of school education in India under the National Policy on Education which was released in 1986 and revised in 1992. This policy indicates that 'there is a permanent need to create a consciousness of the environment. It must permeate all ages and all sections of society, beginning with the child. Environmental consciousness should inform teaching in schools and colleges. This aspect will be integrated in the entire educational process' (Masoom, 2012:1). The policy addresses values as well as all those people who are related to the environment or interact with it in any particular way. It will serve the purpose not only of having knowledge about the environment

but also the purpose of the development of a positive attitude and love towards the environment.

2.14.3 ENVIRONMENT'S CHANCES IN AMERICAN EDUCATION'S MAINSTREAM

Coyle (2005:12) states that 'as the environmental education field has pursued educational acceptance and mainstream positioning, it has developed and institutionalized well thought-out educational approaches, and gathered considerable evidence of academic efficacy. Conclusive studies offering ultimate proof are still needed, but the overall weight of the evidence today is impressive. Environmental Education (EE) is producing higher-performing students, improved test scores, and quality character education, it even contributes to later career success'.

Coyle (2005) further argues that there is also evidence that America's education system has increased its focus on state wide education standards and related testing. The amount of environmental education occurring in schools has levelled off. There is also a possibility that it may even be in decline for the first time in three decades.

2.14.4 LEVEL OF PARENTAL SUPPORT FOR ENVIRONMENTAL EDUCATION

According to Coyle (2005) the 1997 National Environmental Education and Training Foundation (NEETF) found that adult Americans, including parents, overwhelmingly want environmental education for schoolchildren. When research was conducted a majority was expected to be supportive but the magnitude of the majority was never imagined. Fully 95% of adults and 96% of parents support the practice of teaching school children about the environment. The report further reveals that common sense would indicate

that adults would support the notion of preparing the next generation for a more challenging environmental future and it indicates that adults generally want children to live in a better world. The 2000 data from NEETF also show that Americans believe that an appreciation and understanding of the environment creates well-rounded children who are better prepared to be part of society (NEETF and Roper, 2001).

2.14.5 GREEN CAMPUS INITIATIVE (GCI)

The Green Campus Initiative (GCI) is a partnership project between African Compass and the Southern African Chapter of the Association of College and University Housing Officers International South African Chapter (ACUHO-I-SAC) and is jointly funded by the Department of Higher Education and Training and the Department of Environmental Affairs.

The GCI program is aimed at creating awareness amongst college and university communities as well as conducting training and development interventions to empower college and university communities with skills and competencies to initiate campaigns and programmes to mitigate against the impact of climate change in college and university environments.

2.15 THE ENDEAVOURS OF COUNTRY AGENCIES AND NGOs TO PROVIDE ENVIRONMENTAL INFORMATION, PROGRAMMES AND CAMPAIGNS

A number of countries have different agencies and nongovernmental organizations which provide a wide range of environmental programmes, campaigns and information. Interestingly a number of African countries such as South Africa, Swaziland, Ghana, Cameroon, Malawi and Mozambique and European countries including Sweden, Poland, Scotland, England and Northern Ireland are affiliates of the renowned environmental organization

known as Friends of the Earth International (FOEI). These countries provide very unique programmes and campaigns aimed at environmental education and awareness. Judging by the commitment, cooperation and assistance these countries' agencies and NGOs receive from government, illustrates governments' acknowledgement that assistance is required to meet their responsibility for addressing environmental issues.

According to Loubser (2005) state-owned, semi-state and private organisations play a vital role both in the provision of environmental information as well as conservation of the natural and built environment. The South African National Parks (SANParks) is a major state-owned role-player which is internationally recognized in the field of conservation. In Southern Africa, the Wildlife and Environment Society of Southern Africa (WESSA) contributes significantly in the provision of environmental information in the non-formal sector.

Vinke (1992:48) argues that 'governments (the formal sector) have poor records of acting to solve environmental problems and it is usually left to non-governmental organizations (NGOs) to attempt to build better lives for people in rural communities' and indicates that Fisher (1993:95) and Reay (1997:8) share the same sentiment. They further argue that in the informal sector, a wide range of environmental programmes and information are provided by NGOs. Such activities target the adults.

2.16 THE FRIENDS OF THE EARTH INTERNATIONAL (FOEI)

'Friends of the Earth International was founded in 1971 in Roslagen, Sweden by a group of environmental activists from France, Sweden, the UK and the US. These activists saw a pressing need for an organization that would facilitate the tackling of cross-boundary environmental issues' (www.foei.org/en/who-we-are, accessed 30 July 2012). It is from their website that invaluable information about the FOEI was secured. Friends of

the Earth remains the world's largest grassroots environmental network. It unites 76 national member groups and some 5,000 local activist groups on every continent. It has over 2 million members and supporters around the world. Various African and overseas countries such as South Africa, Swaziland, Ghana, Mozambique, Cameroon, Sweden, Poland, Scotland, England, Wales and Northern Ireland are members of the Friends of the Earth International and each country is engaged in unique and various environmental programmes, campaigns or projects.

It campaigns on today's most urgent environmental and social issues. Member countries challenge the current model of economic and corporate globalization, and promote solutions that will help to create environmentally sustainable and socially just societies. Its positions and campaigns are informed by its work at grassroots level with communities.

The website (www.foei.org/en/resources/publications/pdfs/2011/40-years-of-struggles-and-successes/, accessed 30 July 2012) presents detailed information about the successes, failures and challenges encountered by FOEI over the period of forty years. In 2011 it marked its 40th anniversary. Throughout the year it celebrated together with its member groups and supporters, all that it had achieved over the past forty years. Its anniversary was also an opportunity to look ahead to the next forty years and to stress the urgency of a global transformation.

During the course of forty years existence of the FOEI, member countries achieved success through their various environmental campaigns or programmes. England, Wales and Northern Ireland secured the introduction of the United Kingdom's (UK) 2008 Climate Change Act a world first that commits the UK to legally binding cuts in greenhouse gases. This was the result of its Big Ask campaign. Other countries are following the UK's lead and introducing their own legislation. In 2009, the group delivered seminars with the UK's Foreign and Commonwealth Office and its Department of Energy and Climate Change to promote the Climate Change Act across Europe,

complementing the campaigns of other countries.

Uruguay's environmental NGO 'REDES' registered a remarkable victory in their campaign against water privatization. On 31 October 2004, in a landmark decision, 64.7% of Uruguayans voted for a Constitutional Reform in Defence of Water. Water was thus included in the country's constitution as a human right, which paved the way for its public, participatory and sustainable management. The referendum was put forward by the National Commission in Defence of Water and Life (CNDAV), of which REDES is an active member. In 2005, 31 October was declared the International Day of Action in Defence of Water. October was adopted as a month of global action challenging the corporate control of water and to protect water as a common good and a right available to all, under the slogan 'Water is life, not a commodity'.

2.17 SOUTH AFRICA'S ENVIRONMENTAL EFFORTS

Until recently, South Africa had a government-supported environmental agency known as Indalo Yethu and still has an NGO called groundWork. Despite repeated unsuccessful efforts to obtain published documents both on Indalo Yethu and groundWork, the following information was sourced via the internet and through the cooperation of officials at the Department of Environmental Affairs.

2.17.1 INDALO YETHU ENVIRONMENTAL AGENCY

'Indalo Yethu was created as a legacy programme of the World Summit on Sustainable Development (WSSD) hosted by South Africa in 2002. It is an independent trust founded by the Department of Environmental Affairs and the Wildlife and Environment Society of South Africa (WESSA) and was tasked with rolling out national environmental campaigns' (www.indaloyethu.org, accessed 28 June 2012).

Indalo Yethu's vision was to create an eco-conscious society through increased awareness, income generation and skills development in the green sector. Its approach to greening was people-centred sustainable development. It served as an implementation agency of the Department of Environmental Affairs, implementing education awareness programmes as well as working for programmes such as Ecotowns, the Cleaning and Greening Programme and Youth Energy Savers.

2.17.2 ECO-TOWNS PROJECT

The agency ran a project known as Eco-Towns. This project provided more than 3 000 unemployed young people with work experience and skills in green jobs such as environmental education, waste recycling, horticulture and forestation. The Eco-Towns had, after two years, already notched up a number of milestones in piloting integrated town management that could lead to more sustainable urban environments.

Indalo Yethu's support team worked in collaboration with municipalities in capacitating them environmentally. The agency together with a local municipality visited schools where they planted trees and provided awareness campaigns. When the team left a town, they wanted to ensure that there would be systems in place for integrated environmental management. Basically the team worked closely with municipal employees, setting up initiatives and transferring management skills to the municipalities and to beneficiaries from the programme who were able to manage them once the team had moved on to other sites.

As part of the Eco-Towns project the agency, through participating municipalities, promoted an annual environmental campaign known as the Cleanest Town Competition and the Cleanest School Competition. Through this initiative towns and schools were encouraged to maintain a high quality of environment whereby all towns and schools competed amongst one other

in the three spheres of government, namely, local, provincial and national.

The Eco-Towns project beneficiaries included over 250 awareness ambassadors providing environmental education and awareness in communities. The team was engaged in the day-to-day activities of community outreach programmes. The team was there to mobilize the community on the project in order to ensure sustainability.

2.17.3 INDALO YETHU'S MILESTONES IN ENVIRONMENTAL EDUCATION AND AWARENESS

Indalo Yethu prided itself on some remarkable achievements in their endeavour to promote environmental education and awareness. Among their key milestones remain the following:

- a. the completion of a detailed strategic planning document for environmental education and awareness
- b. implementation of a training plan for eco-towns and the conclusion of basic supervisory training in all ten towns
- c. the implementation of a schools energy-saving programme in partnership with Enerkey, an energy saving education initiative run by Enerkey and Stuttgart municipality in Germany. The idea was to start a similar programme in South Africa, linked to the eco-towns programme. Indalo Yethu's partners in Germany were to provide the technical support or training and they would find partner schools in Germany to share their experiences through a video conference
- d. the completion of a leadership course in sustainable development with 25 students from Thumela and Giyani Local Municipalities, in Limpopo and Mquma Local Municipality in the south eastern part of the Eastern Cape Province
- e. biodiversity workshops and training sessions were conducted in several towns in cooperation with a range of botanical gardens, provincial departments and municipalities including some of the eco-towns

- f. a partnership was forged with Mushito, a music industry organization, to use prominent musicians to spread the message about environmental issues towards increased awareness.

2.17.4 CHALLENGES AND DISSOLUTION OF THE AGENCY

Indalo Yethu, as is typical of other organizations, recorded some achievements and confronted some challenges. It experienced the following as challenges:

- a. low human resource capacity to meet escalating expectations that were placed on the organization by different stakeholders, including government departments, municipalities and beneficiaries
- b. staffing and funding for some of the projects remained limited
- c. Indalo Yethu offered fixed term contracts of a short duration which compounded the problems of their talent search and retention strategy. As a result of the staff shortage, the agency was challenged in expanding its training and coaching to develop resources that were in existence
- d. the agency had some labour problems during the establishment of the eco-towns due to ongoing misunderstandings by workers and unions over the extended public work programme's (EPWP) conditions related to working conditions and wages.

After its existence over a period of about seven years, Indalo Yethu was terminated. The Department of Environmental Affairs (DEA) has advised that they are no-longer prepared to support Indalo Yethu with the annual funds to sustain the organization. With the Eco-Towns pilot project coming to an end, the DEA would prefer that Indalo Yethu closed its operations. December 2012 was declared as the closure date because some functions had to be handed over and certain elements were closed down. Indalo Yethu developed a strategic closure plan.

The objectives of this strategy were to:

- a. outline what actions needed to be taken to ensure a seamless closure of operations
- b. ensure that all deliverables were completed prior to the closure in December 2012, the given timeline
- c. conduct extensive stakeholder relations management to ensure that all stakeholders are aware of the future of Indalo Yethu and all projects are handed over to the department and likeminded business seamlessly
- d. conduct an extensive communications and marketing campaign that would inform all relevant stakeholders on the dissolution of the Indalo Yethu Trust.

Based on the background information presented above about the agency it is evident that the agency made its mark in its ten years of existence in terms of advocating environmental education and awareness. Introduction of competitions such as cleanest town/school competitions, which continue annually within municipality and schools even after the dissolution of the agency, transfer of management skills to municipalities and participation in COP 17 activities through the Green Climate train are all indications of devotion of the agency based on the mandates of its formation in 2002.

2.18 SOUTH AFRICA'S CLIMATE CHANGE AWARENESS CAMPAIGN

Before the dissolution of Indalo Yethu, the South African Parliament hosted a seminar on Climate Change from 28 to 29 October 2011. The prime objective of the gathering was to disseminate valuable information to recognized stakeholders and other interested parties about COP 17 to be held in Durban from 28 November to 09 December 2011.

The White Paper on National Climate Change Response states that Parliament will oversee the development and implementation of the national Climate Change Response Policy through the portfolio committees, and in particular committees on Water and Environmental Affairs, Energy, Agriculture, Forestry and Fisheries, Trade and Industry, Mining, Science and Technology, and Transport.

Parliament also created the Inter-Ministerial Committee on Climate Change (IMCCC) to coordinate and align climate change response actions with national policies and legislation. To attain this goal, cluster forums of South African Directors-General were formed to guide clusters based on their different mandates. Clusters include:

- a. the Economic Sectors and Employment Cluster focuses on issues that have a strong bearing on economic growth and employment creation
- b. the Infrastructure Cluster deals with all infrastructure-related aspects of this policy
- c. the International Cooperation Cluster focuses on international engagements
- d. intergovernmental Committee on Climate Change is to operationalise cooperative governance in the area of climate change
- e. the National Disaster Management Council ensures that the National Framework for Disaster Risk Management provides clear guidance across all spheres and sectors of government for managing climate change-related risk. It also ensures that an effective communications strategy is in place for early warnings to vulnerable communities with respect to extreme weather events such as flooding and droughts. Under the National Disaster Management Council, provincial and local governments were given mandates to take on various specific climate change-related issues.

Since climate change is an issue for all South Africans, government realises that the objectives set out in the White Paper can only be fully realised with active participation of all stakeholders. The government is committed to

substantive engagement and, where appropriate, to partnerships with stakeholders from industry, business, labour and civil society in a manner that enhances coordination.

Indalo Yethu actively participated in the two-day seminar on Climate Change. Prior to COP17 conference the agency used a train known as 'The Green Climate Change Train' to visit all the provinces of the country and its final destination was KwaZulu Natal Province where COP17 was hosted. Indalo Yethu embarked on the climate train journey in collaboration with the British Council and Copart (UK transport trading company), with the support of the Passenger Rail Agency of South Africa (PRASA) and the Embassy of the Republic of Germany, in the lead up to and during COP 17.

The train departed from Cape Town on 28 October 2011 and arrived in Durban on 27 November 2011. It provided a vehicle that highlighted the impact of climate change on vulnerable communities, documented responses, expectations and campaign solutions in the towns along the way. The train offering included on-board exhibitions and educational content including roundtable dialogues, seminars, creative and performing arts. Off-board related activities included industrial theatre, seminars and tree planting to offset the journey's carbon footprint.

Ordinary South Africans were brought on board so that meaningful dialogue on environmental issues could be realized. To achieve this aim support and participation of labour, civil society, non-governmental and community-based organisations and the faith communities was required. The train focused specifically on more vulnerable groups, such as the youth, women and labour. Among the initiatives along the train route, was the introduction of a climate charter discussion, aimed at finding a common African voice to make our values and rights audible in the climate discourse. Though time was limited before COP17, it was hoped that voices along the route were going to feed into a longer term process to inform an African charter on Climate Change Response.

Roundtable conferences at stations along the way, also tackled burning local topics for instance: water scarcity and contamination, the green economy, loss of biodiversity, unsustainable farming and mining practices. Awareness of climate justice was raised centred on the prediction that Africa, as the poorest and least resourced continent, would be hardest hit by the effects of climate change even though it contributed least to its cause.

The project partners greatly welcomed individuals' participation in the Climate Change Train's programme. This was offered through the provision of content for the knowledge carriage, exhibiting one's climate change response innovation and/or organising activities in one's town to coincide with the train's arrival.

2.19 SOUTH AFRICA'S ENVIRONMENTAL NGO: GROUNDWORK

The organization's website (www.groundwork.org.za/aboutusMission.html, accessed 30 July 2012) indicates that 'groundWork is a South African environmental organization which was formed in 1999. It is an affiliate of FOEI and operates as a non-profit environmental justice service and developmental organization working primarily in South Africa but increasingly in Southern Africa'.

It seeks to improve the quality of life of vulnerable people in South Africa and southern Africa through assisting civil society to have a greater impact on environmental governance. It places particular emphasis on assisting vulnerable and previously disadvantaged people who are most affected by environmental injustices.

All its campaigns are driven by putting groundWork's values to work. These values are founded on the principles of environmental justice and solidarity with communities that suffer environmental injustice. groundWork therefore:

- a. works with community groups to empower them in relation to other

major stakeholders. It thus sees process and participatory action as the means to delivery on environmental rights

- b. works to connect community groups with broader national and international campaigns and processes. It thus seeks both to facilitate the voicing of community concerns at these levels and to ensure that they have access to the resources developed from the wider experience of struggle
- c. works to promote the expression of the environmental concerns of communities within the broader public debate carried by the media
- d. works to find equitable solutions to real and pressing problems
- e. works to ensure that democratic process and gender equity is integral to all campaigns and all voices are heard.

The existence and operation of groundWork is guided by Section 24 of the SA Constitution (RSA, 1996) which states:

'Everyone has the right-

- a. to an environment that is not harmful to their health or well-being; and
- b. to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures
 - i. prevent pollution and ecological degradation
 - ii. promote conservation; and
 - iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.'

Since its inception, groundWork prioritized four major campaigns, namely Air Quality Campaign, Waste Campaign, Environmental Health Campaign and Environmental Justice and Energy Campaign.

groundWork can boast a number of achievements. It engaged with a recycling campaign aimed at supporting the endeavours of waste pickers. In particular, they lobbied the South African government to help the waste pickers gain recognition in the National Environmental Management Waste

Act of 2009, as legitimate stakeholders that provide a benefit to South African society. This was the first time the waste pickers had received any recognition within national legislation. In July 2009, groundWork hosted the first National Waste Pickers' Meeting. The result was a commitment to work collectively towards securing waste pickers' livelihoods. Four months later seven waste pickers joined groundWork in a visit to Egypt to attend a conference, 'Towards a Culture of Sustainable Communities, Economies and Environment' in Cairo.

Another unprecedented success came in 2011 when the Mpofane Municipality officially granted waste pickers the right to salvage waste from the local landfill site. The formerly unemployed people, now working together as the Mooi River Waste Reclaiming Cooperative, were delighted to be recognised by the United Nations-founded SEED Initiative, which presented them with an award for entrepreneurship in sustainable development (<http://www.news24.com/fin24/Economy/UN-award-for-waste-pickers-20110330>, accessed 30 July 2012).

2.20 ENVIRONMENTAL EFFORTS BY SOME AFRICAN COUNTRIES

A number of African countries are stopping at nothing to ensure that they provide environmental programmes, campaigns and environmental awareness and education.

2.20.1 SWAZILAND'S ENVIRONMENTAL PROGRAMMES

Swaziland like other African countries such as Mozambique, Cameroon, Ghana, Sierra Leone and Uganda is involved in environmental initiatives aimed at environmental education and protection of the environment.

i) NATIONAL ENVIRONMENTAL EDUCATION PROGRAMME (NEEP)

According to the United Nations Agenda 21 Chapter 36, Swaziland was one of the African countries that participated in the United Nations Conference on Human Environment in Stockholm in 1972. Swaziland subscribes to the provision of environmental events, promotion of environmental training, education and in general, creating public awareness among masses. The main players in this endeavour are the Ministry of Education which is responsible for formal programmes, curriculum development and teacher training, the National Environmental Education Programme (NEEP) responsible for non-formal programmes, various extension services from other ministries and non-governmental organisations.

As reported by the United Nations (1992), there are a number of NGOs in Swaziland involved in environmental education, including Yonge Nawe, Coordinating Assembly of NGOs, Africa Co-operation Action Trust (ACAT) and Emanti Esive, to name a few.

Their major thrust is:

- a. the provision and coordination of environmental programmes
- b. creating and spreading environmental education and awareness
- c. promotion of community participation in environmental events
- d. initiating, raising and administering funds for environmental projects.

ii) YONGE NAWA ENVIRONMENTAL ACTION GROUP

In the tiny Kingdom of Swaziland the most important and vibrant environmental organization is Yonge Nawe. 'Yonge Nawe is a public interest membership based Non-Governmental Organisation that works on issues of environment and sustainable development. It was founded in 1987 by a group of members who were concerned with the state of environment in the country and, also the low level of environmental awareness and participation

by the public. These concerns have been carried throughout the life of the organisation' (www.foei.org/en/who-we-are/member-directory/groups-by-region/africa/swaziland.html, accessed 30 July 2012). It is from this website that the following information was obtained.

Yonge Nawe's mission:

- a. to build capacity of multiple groups to enable them to act in the interest of a healthier environment
- b. to educate and advocate for sustainable development
- c. networking and forming working relationships with strategic partners nationally and internationally.

Yonge Nawe's objectives:

- a. to raise environmental awareness and activism in society for achieving sustainable development
- b. to act and protect the environment and natural resources using all available fora
- c. to advocate for environmental and socio-economic justice
- d. to advocate for development that safeguards the environment and natural resources for present and future generations
- e. to conduct research on sustainable development issues to inform policy and decision-making
- f. to advocate for policy and laws that guarantee good governance and equitable distribution of resources
- g. to represent and act on behalf of the socio-economically disadvantaged in accessing environmental and socio-economic justice.

Yonge Nawe works with local and international partners who are concerned about the environment, health and socio-economic wellbeing of socially disadvantaged members of society. It engages its partners at different times, and for varying purposes. Its partners are drawn from but not limited to the following categories:

- a. community based organisations

- b. government
- c. NGOs working on environment and development issues
- d. academic institutions
- e. private sector
- f. youth
- g. regional and global environmental NGOs and networks
- h. media

2.20.2 SIERRA LEONE

Sierra Leone has its own organization known as Friends of the Earth Sierra Leone. This is a grassroots organization which was founded in 1989 and in the same year they joined FOEI. The organization has 25 local groups that promote environmental awareness, partly through their campaign on sustainable societies (<http://www.foei.org/en/who-we-are/member-directory/groups-by-region/africa/sierraleone.html>, accessed 30 July 2012).

2.20.3 GHANA

Ghana's environmental NGO known as Friends of the Earth Ghana is a membership association of around 300 local groups spread across the country. It was founded and joined the Friends of the Earth International in 1986. In the past 26 years, the membership of the organization has grown to 15,000. As the largest environmental organization in Ghana, it is dedicated to addressing environmental issues and promoting public awareness of environmental problems (<http://www.foei.org/en/who-we-are/member-directory/groups-by-region/africa/ghana.html>, accessed 30 July 2012).

FOEI-Ghana's mission is the conservation and sustainable use of the country's natural resources to improve the economic and social well-being of present and future generations. FOEI Ghana particularly emphasizes the need to

integrate environmental sustainability with gender equity.

Members play an important role in supporting community projects that empower and educate people to bring about positive changes to their livelihoods. They also campaign for change towards environmentally and socially equitable development in the activities of governments, institutions, businesses and industries. Many successful campaigns and projects have built the organizations considerable expertise in forestry issues. They also play a key role in exposing the negative social and environmental impacts of the West African Gas pipeline.

2.20.4 MOZAMBIQUE

Mozambique prides itself in the organization known as Justica Ambiental (JA). It works very closely with communities on environmental campaigns such as the cutting down of forests, pollution, dams, oil exploration and people's access to clean water. Justica Ambiental views environmental justice as the act of using the environment as a vehicle for ensuring equity and equality across society. In support of sustainable development it tries to view the concept of equality at a grand scale, and as such, values the rights of future generations to a healthy and safe environment (<http://www.foei.org/en/who-we-are/member-directory/groups-by-region/africa/mozambique>, accessed 30 July 2012).

Its mission is to engender a culture of civil action in Mozambique both through actions to protect the environment and by actively engaging in developmental decisions relating to issues of environmental justice in the country, Mozambique and throughout the world. It is committed to free access to rivers and clean water for all, environmental law and policy monitoring, promotion of renewable energies and a toxin-free environment.

2.20.5 CAMEROON

Cameroon runs its environmental organization called the Centre pour l'Environnement et le Development Cameroun (CEDCAM). It was founded as an association in 1995 and joined FOEI in 1999. Over the past thirteen years, CEDCAM has championed the philosophy of fighting against poverty while at the same time protecting the environment. CEDCAM's campaigns and analysis take into account the interdependence of environmental and social problems and why the protection of natural resources is crucial as they impact the lives and livelihoods of peoples (<http://www.foei.org/en/who-we-are/member-directory/groups-by-region/africa/cameroon.html>, accessed 30 July 2012).

CEDCAM has focused on the transformation of societies through the promotion of local sustainability projects, capacity-building with communities and indigenous groups, the promotion of organic farming and the protection of community forestry. CEDCAM is also a key player in fighting and exposing the social and environmental impacts of the Chad-Cameroon pipeline project.

2.20.6 TWO INNOVATIONS FROM TRINIDAD AND TOBAGO

Ham (1992) states that the government of Trinidad and Tobago introduced a number of environmental programmes aimed at combating problems. Nationwide communication and education initiatives were used as a mechanism to combat prevalent environmental problems. Schools and youth groups were aggressively targeted with environmental education by the environmental caretakers. Success was recorded through one of the most successful programmes known as the annual speaking competition on environmental topics. The second effort describes a special fire prevention campaign aimed at all age groups, known as a "Walk-a-Thon."

i) PUBLIC SPEAKING COMPETITION

According to United Nations Educational, Scientific and Cultural Organization (UNESCO:2000) in 1998 a public speaking competition was introduced. It aimed at educating teenagers about the importance of the environment and the need to prevent further degradation. All secondary schools were invited and were given environmental topics to debate. On the final day of the competition, once again all schools were invited irrespective of their earlier performances in the competition. The venue for the final day of the competition was centrally and conveniently located to maximise attendance. People from a wide cross-section of the population were invited with the aim of increasing awareness. The Department of Forestry offered plaques and trophies to schools that performed extra-ordinarily well while business people provided refreshments. As time progressed the competition courted great success because financial support from companies grew whereby book vouchers were ultimately offered to well deserving students. The number of schools participating increased, attendance improved dramatically and the event went on to enjoy more media coverage each year as compared to its first year of inception in 1998.

ii) WALK-A-THON

The Department of Forestry organised and extended Trinidad and Tobago's environmental programme with the addition of a non-competitive walking event called a 'Walk-a-Thon' (UNESCO: 2000). This was an eight-mile walk, the aim of which was to spread environmental messages. Walkers were led by a vehicle with a PA system and promotional banner. Other promotional accessories included green hats with the slogan "A Journey Back to Nature". Community members were encouraged to bring their own T-shirts so that various environmental slogans could be printed. Private sector assisted with funding of the event and participation grew each year. As time progressed the event included a live broadcast of an environmental question-and-answer

radio programme at the rally. Every year, anticipation builds all over the country for the next year's Walk-a-Thon! As an evidence of success of this programme, between 1998 and 1990, there was a marked decrease in forest fires, estimated at around fifty percent. There was a feeling that there was success in educating residents in combating environmental degradation as well as deforestation.

According to Reshma (2012) the walk-a-thon programme continues to grow in stature and makes a difference in terms of environmental consciousness of the citizens. Pupils in particular participated in large numbers with placards bearing environmental awareness messages calling on citizens to care for environment. The most prolific statement made by pupils was, "Together we can make a difference".

2.20.7 UGANDA'S ENVIRONMENTAL MANAGEMENT AUTHORITY

According to Caldwell (1999:180-181) 'in Uganda there is a National Environment Management Authority (NEMA), an umbrella organisation responsible for all issues of environment and development in Uganda. It is a semi-autonomous body charged with coordinating and supervising all aspects of natural resource management.

These include:

- a. provision of environmental education and public awareness
- b. provision of environmental information
- c. enhancing the role of environmental NGOs
- d. research in the field of environment
- e. improving environmental legislation and policies'.

2.21 THE PROVISION OF ENVIRONMENTAL PROGRAMMES AND CAMPAIGNS IN SOME EUROPEAN COUNTRIES

Caring for the environment has become a global phenomenon as evidenced by the number of countries that are engaged in endeavours to provide environmental programmes and campaigns.

2.21.1 SWEDEN

Sweden's environmental NGO known as Friends of the Earth Sweden was founded in 1971 and is one of the four co-founders of FOEI. With roots in the radical environmental movement of the 1970s, it has grown to encompass 15 local groups with more than 2,600 members (<http://www.foei.org/en/who-we-are/member-directory/groups-by-region/europe/sweden.html>, accessed 30 July 2012).

Its objective is to fight climate change, defend the environment and promote global solidarity. The methods it uses are public information campaigns, mobilising action and influencing decision-makers on a wide range of topics on all levels, from daily household decisions to national and international policies. A recurring approach is taken in highlighting the role of the powerful economic driving forces behind the type of development that leads to human and environmental destruction.

Volunteers play a large role in coordinating campaign activities and deciding the direction of campaigns in working groups on energy, traffic, food security, nuclear waste, forestry and climate. Local groups democratically decide their own activities which include participating in national and international campaigns. Friends of the Earth Sweden has produced a series of publications, on issues such as targets for material and energy flows, the North's consumption impact, forestry, food security and the use of the land and natural resources. The publication '*Naturbruksupproret*' which is about

reclaiming power over the use of land and natural resources, illustrates how important it is to shift the power balance from corporations to local producers in the transition to a just and sustainable society.

2.21.2 POLAND

In 1980 Poland established the Polish Ecological Club as a non-profit, non-governmental organization opposing treating the environment as an ownerless, valueless property. Its main goal has been the practical implementation of sustainable development through raising the environmental awareness of society, thus environmental education has been the first of its tasks. The organization's main challenge is to make people aware that the quality of life depends on achieving a balance between technological development, humanistic values and wise stewardship of the Earth's natural resources. This, together with preserving the country's natural, historical and cultural heritage, is still its main challenge (<http://www.foei.org/en/who-we-are/member-directory/groups-by-region/europe/poland.html>, accessed 30 July 2012). Further information sourced from this website indicates that the Polish Ecological Club works within the Green Consumer Campaign which promotes environmentally friendly models of consumption as an alternative to 'run-away' consumerism. The main goal of the energy campaign is the protection of the air and creating environmental awareness within the scope of energy and transportation issues. Finally it has the Green Academy educational project which is directed to deliver recent knowledge on environmental issues to teachers of different subjects, local activists and governments.

2.21.3 SCOTLAND

Friends of the Earth Scotland thinks globally and acts locally, delivering solutions to climate change by enabling and empowering people in their country to take both individual and collective action and also helping people to sustain a healthy society and environment (<http://www.foei.org/en/who-we-are/member-directory/groups-by-region/europe/scotland.html>, accessed 30 July 2012).

The organization is Scotland's leading environmental campaigning organisation with a network comprising thousands of supporters and active local groups across Scotland. The group campaigns on a wide range of issues, including climate change, renewable energy, public access to environmental justice, legal reform and the 'greening' of the activities of Scottish business, including the Royal Bank of Scotland.

Friends of the Earth Scotland envisions a world where everyone can enjoy a healthy environment and a fair share of the Earth's resources and believes that the next generation's futures will be better because of the actions it is taking now.

2.21.4 ENGLAND, WALES AND NORTHERN IRELAND

In the United Kingdom FOEI is the environmental NGO which is the most influential national environmental pressure group. It is a unique network of campaigning local groups, working in over 200 communities throughout England, Wales and Northern Ireland (<http://www.foei.org/en/who-we-are/member-directory/groups-by-region/europe/ewni.html>, accessed 30 July 2012). Further information from the website indicates that England, Wales and Northern Ireland have three main areas of action, namely: campaigning, citizen action and information and ideas. The groups pressure government and business to adopt policies and practices which ensure environmental

protection, conservation and the sustainable use of natural resources. They attain their goals by:

- a. activating people and communities locally and nationally to reduce their impact on the environment, and to push Government, industry and financial institutions to adopt the environmental agenda
- b. researching and communicating reliable, accessible and provocative information and ideas about environmental problems and their solutions, and the state of the environment locally, nationally and globally.

2.22 ENVIRONMENTAL ISSUES IN ELECTION CAMPAIGNS

Kraft (2007:102) points out that 'one way that environmental organizations reach new constituencies and broaden public support is to promote environmental issues in election campaigns. Environmental issues only rarely have been a decisive factor in elections, even though they have long been prominent in selected contests in Oregon, Washington, California, New Jersey, Colorado and other states. Moreover, there is still little evidence to date of the existence of a reliable "green" vote in most areas in the United States. The Green Party itself has attracted sustained support only within a few regions of the country, unlike in Europe. Yet the US electoral system is strongly biased against third or minor parties, which accounts for the challenges they face in national elections'.

In the Western world the existence of Green politics is more evident in Europe than in America. This political ideology aims to create an ecologically sustainable society rooted in environmentalism, social justice, and grassroots democracy. It began taking shape in the 1970s; since then Green parties have developed and established themselves in many countries across the globe, and have achieved some electoral success.

Supporters of Green politics, called Greens (with a capital 'G'), share many ideas with the ecology, conservation, environmentalism, feminism, and peace movements. In addition to democracy and ecological issues, green politics is concerned with civil liberties, social justice, nonviolence, sometimes variants of localism and tends to support social progressivism. The party's platform is largely considered left in the political spectrum

(http://www.en.wikipedia.org/wiki/Green_politics, accessed 07 August 2013).

Normally political parties pull huge crowds of supporters during election campaigns. Kraft (2007) hopes that if these parties consider environmental issues important they can utilise platforms such as mass meetings during campaigns to promote environmental programmes, campaigns and projects to the electorate.

2.23 CONCLUSION

After reviewing literature on the development of the environmental movement, the chapter highlighted what South Africa and other African countries such as Swaziland, Ghana, Cameroon and Uganda are doing in terms of provision of environmental programmes, campaigns and information geared towards environmental awareness and education. Similar activities in other countries such as Sweden, Poland, Scotland, United States of America, Russia and India were discussed.

Comparison of South African programmes and campaigns with those of other nations highlights some interesting similarities as well as contrasting differences. South Africa adopted the Cleanest School/Town Competition while Trinidad and Tobago rely on the Public Speaking Competition as a vehicle geared towards public environmental education and awareness. On the other hand, in Russia environmental organizations accompany political parties during electioneering campaigns in order to reach large numbers of community members. South African environmental organizations miss such

opportunities.

While no research reports have come to light that have investigated the impact of various campaigns and programmes, their continued proliferation suggests that organizers are satisfied that they are successful.

It is the researcher's conviction that if more public participation could be encouraged where parents attend school environmental functions they could be made environmentally aware.

It is apparent that groups in many countries are putting in concerted efforts to ensure that environmental issues are a priority on national agendas. Further, judging from what countries are doing it is obvious that the function of providing environmental information, programmes, campaigns and projects is not solely government's task, various agencies, nongovernmental organizations and academic institutions must be involved.

The role of media cannot be over-emphasized in the promotion of environmental education and awareness. It is hoped that if environmental programmes and campaigns can enjoy more airtime on radio and television and more coverage in newspapers, they can make a huge difference in educating and sensitizing community members as evidenced in Russia. A growing number of people particularly the youth across the world have access to social networks such as internet, face book and twitter, hence sharing of environmental information through these networks could prove to be fruitful.

CHAPTER 3 DATA COLLECTION

3.1 INTRODUCTION

The chapter explains and justifies precisely how and why some elements which fall under research methodology and design were decided upon. These include the study area, sampling, target population, research instrument and data collection process. Efforts are made to explain how data was collected from each category of respondents, namely: the sector manager of a local environmental centre, various educators, learners, traditional leaders and community members.

3.2 RESEARCH DESIGN AND METHODOLOGY

Conducting research has never been a neutral undertaking. Good research subscribes to one or more relevant approaches available under the discipline. Geography, like any other discipline, has its own traditions such as the positivist approach, the behavioural approach, the humanistic approach, structural-realist approach and the post-modern approach, to name but a few.

The researcher perceives the discipline of Geography as a human or anthropocentric science, hence human beings are a central point of reference of geographical studies and the field of study is Earth's surface as a home for human beings. Johnston (1989:74) argues that the humanistic approach in Geography is the one that 'studies people in the worlds that they create as thinking beings'.

Thus the study followed the humanistic approach. Because the study evaluated the provision of environmental programmes and campaigns, human beings were central. The primary research instrument was an opinion survey. The way questionnaires were designed and drawn up and the manner in

which face to face interviews were conducted were influenced by the humanistic approach. Tuan (1976:266) proposes a humanistic approach which achieves an understanding of the human world by 'studying people's relations with nature, their geographical behaviour as well as their feelings and ideas in regard to space and place'. Tuan (1971) also argues as quoted by Holt-Jensen (2009:145) that 'Geography is the mirror of humanity: to know the world is to know oneself'.

The study followed two aspects of research design, namely non-empirical and empirical studies whereby literature reviews and evaluation research were conducted respectively. The implementation of evaluation research aimed to answer, among other questions, whether environmental programmes have been effectively provided and implemented and whether the target group, in this case the community of Masibekela had been adequately covered. The key research questions (in questionnaires and individual interviews) were descriptive questions that culminated in the gathering of data which was numeric and textual in nature.

The research methodology that was followed in this study can best be described as the mixed-method approach since in practice it involved quantitative and qualitative data. The entire procedure of determining a sample size, delimitation of study and data collection is elaborated on further under each relevant subheading.

3.2.1 THE STUDY AREA

Mpumalanga Province lies in the east of South Africa and is bordered by Swaziland and Mozambique. It has three municipal districts namely: Gert Sibande district, Nkangala district and Ehlanzeni district (Figure 3.1).



Figure 3.1 The three municipal districts of Mpumalanga (Map sourced from Mpumalanga Department of Rural Development and Land Reform, Spatial Planning and Land Use Management Branch)

These three districts are further subdivided into eighteen local municipalities. Nkomazi Municipality is one of the eighteen local municipalities and falls under the Ehlanzeni District. The Nkomazi Local Municipality is located in the eastern part of the Ehlanzeni District Municipality of the Mpumalanga Province. The district municipality is strategically placed south of the Kruger National Park, north of Swaziland and west of Mozambique (Figures 3.1). It is linked with Swaziland by two regional roads, the R570 and R571. Links with Mozambique include a railway line and national road, N4, (Figure 3.2) which together form the Maputo Corridor, an area identified for economic development.

The study focuses attention on Masibekela (Figures 3.1 and 3.3). This village was selected as a case study because the researcher has longstanding knowledge of the area and has noticed deterioration over time in local environmental quality. Figure 3.1 clearly indicates the study area, while Figure 3.2 shows the regional road (R571) from Komatipoort that passes through the study area to Swaziland. Close to the R571 are sugar cane farms and the Komati River which divides the study area from a village to the west known locally as Sihlangu (but shown in Figure 3.3 as Sibange).

The study does not seek to be too ambitious. Delamont et al. (1997:69) note 'ambition is commendable, but over-optimistic estimates of time and effort are not to be encouraged'. Delamont et al. (1997:70) tell the story of Harry Wolcott, an American anthropologist whose approach was to study only one of anything at any given time: one village, or one school, or one community leader. Some people questioned him "but Harry, what can you learn from just one?" to which Harry replied, "as much as I can".

The Nkomazi Local Municipality has about thirty villages under its jurisdiction. Following what is advocated by Delamont (1997), the researcher opted to focus on one small village only so that it can be studied in-depth rather than concentrating on a number of villages, each studied superficially.

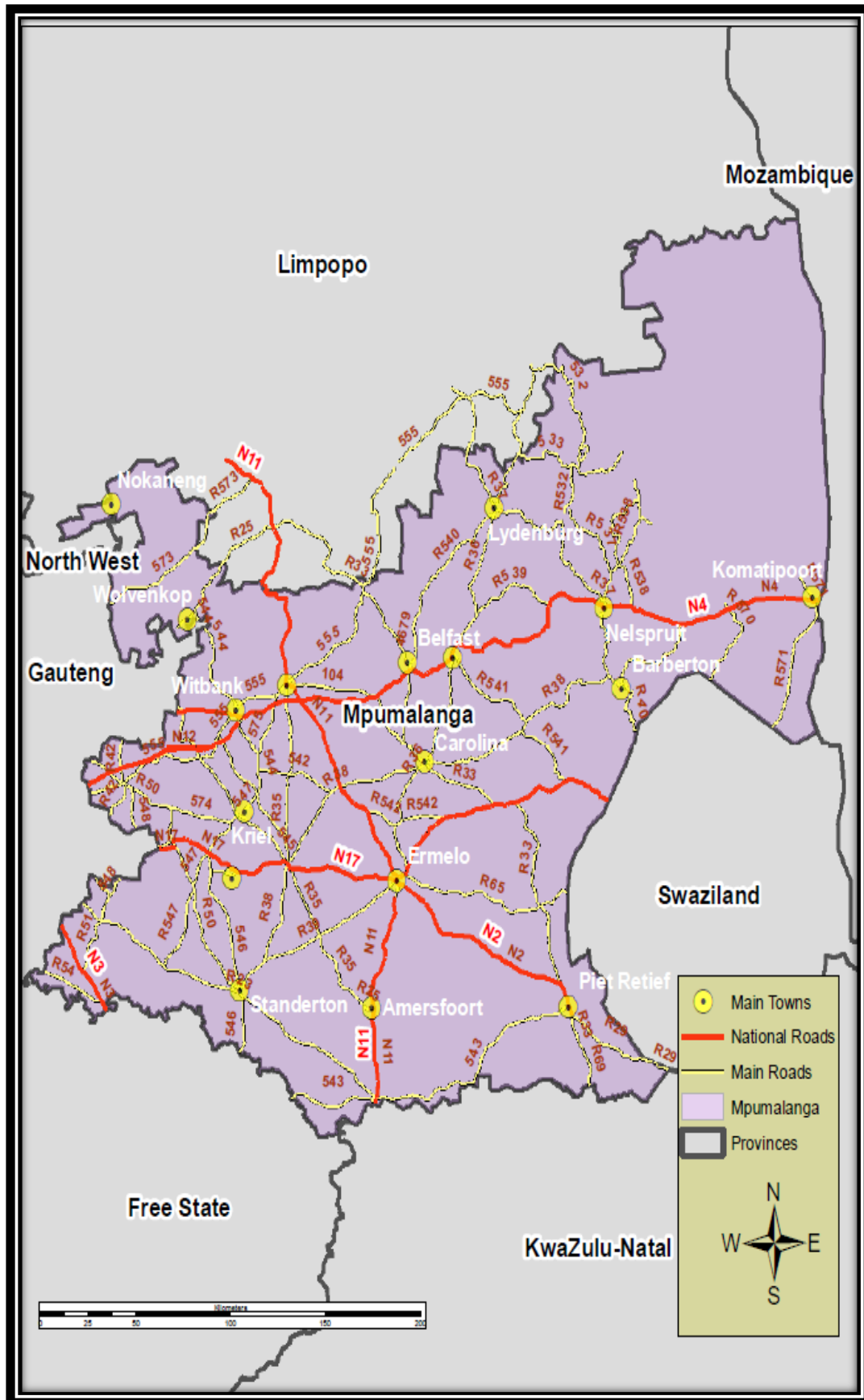


Figure 3.2 Major roads and towns in Mpumalanga (Sourced from Mpumalanga Department of Rural Development and Land Reform, Spatial Planning and Land Use Management Branch)

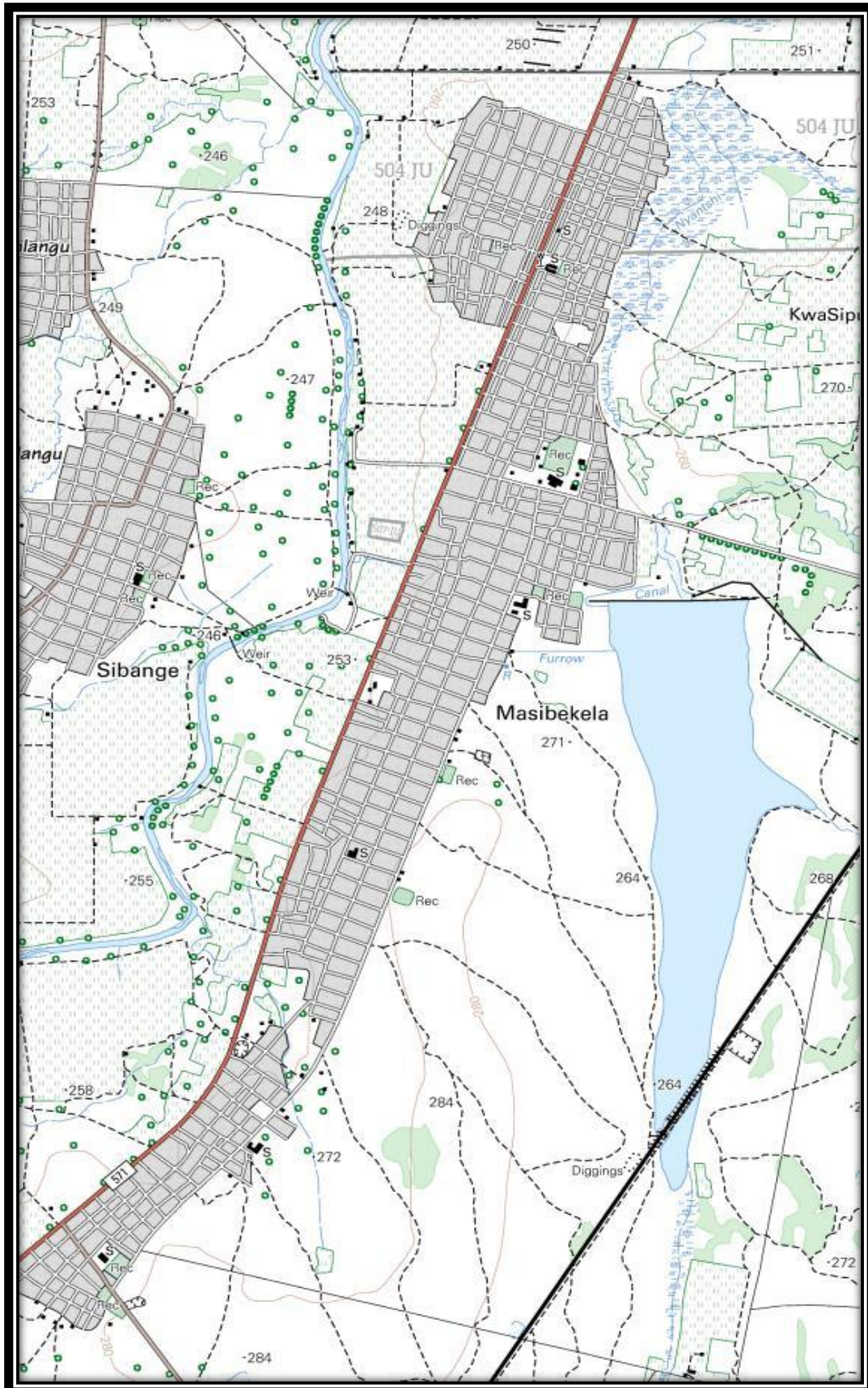


Figure 3.3 The extent of the study area – Masibekela (extract resized from topographic map 2531DD Figtree produced at 1:50 000 by CD:NGI, map key in Appendix A1)

3.2.2 DATA COLLECTION PROCESS

The research followed empirical data collection whereby the respondents within the study area were visited. The respondents responded to the questionnaires and in other instances the researcher conducted a face-to-face interview since some respondents were illiterate, particularly traditional leaders and community members. More details are covered under each respondent category to show how the entire process of data collection unfolded. Table 3.1 summarises the dates of data collection and the final numbers of respondents. The predetermining of the sample size is illustrated in Tables 3.2 and 3.5.

i) SECTOR MANAGER: TONGA ENVIRONMENTAL CENTRE

The study area is at a distance of about 13 km from the Tonga Environmental Centre. The researcher secured the co-operation of the sector manager and an appointment was made to complete the questionnaire. Basically the sector manager found the research project relevant because it focused specifically on the core business of the centre. Most importantly what triggered enthusiasm on the part of the sector manager was the fact that Masibekela falls within the jurisdiction of his operational area. His proposal was that the final product of the research project should be handed to the centre since it would, in one way or the other, assist the centre in improving its provision of environmental programmes and campaigns not only to Masibekela village but to all the villages under its jurisdiction.

ii) TRADITIONAL LEADERS AND COMMUNITY MEMBERS

The study area falls under the Mlambo Tribal Authority and community meetings are normally held on Sundays in the open area just south of the Masibekela Primary school. An appointment was secured with the community

leadership in which the community members were addressed and subsequently requested to participate either by filling in the questionnaire or by responding to the questions face-to-face with the researcher or appointed helpers. Educators and other literate community members were approached to assist with interviews due to the high rate of illiteracy within the study area. Interviews were conducted in Siswati but responses were recorded in English to facilitate data analysis. Since the time utilised during community meetings was not enough to conclude the whole process of data collection, follow-up meetings with respondents were an obvious tool the researcher employed to bring the whole process of data collection to completion. Door-to-door visits proved to be the most suitable opportunity to fill in the questionnaire in the form of face-to-face interviews.

iii) THE SCHOOLS: EDUCATORS AND LEARNERS

All the schools in the study area were visited. Prior arrangements to address the educators were made in consultation with the heads of the schools. The researcher sought educators' co-operation in participating in the survey. Educators filled in their own questionnaires and assisted the researcher in gathering responses from the learners. In most of the schools visited, educators who had a Science or Geography background were utilised by the researcher when learners were filling in their questionnaires. The educators supervised learners but did not in any way influence the learners' opinions. While educators at all schools were targeted, only Grade 10-12 learners at high schools were targeted as respondents because they were considered to be at an advanced stage of their education, hence they easily and fairly responded to the questionnaire.

The researcher targeted about 176 Grade 10-12 learners. However the level of eagerness to participate in filling in the questionnaires displayed by the learners was beyond the expectations of the researcher. Such motivation culminated in a situation whereby the researcher was compelled to distribute

almost double the number of the questionnaires for this set of respondents.

Table 3.1 Chronological summary of dates when respondents were either interviewed or filled in the questionnaires.

Date	Target respondent	Number	Researcher's observation and remarks
12-12-2011	Sector Manager-Tonga	1	The sector manger was co-operative and enthusiastically filled in the questionnaire given the fact that the study area falls under his area of jurisdiction.
18-12-2011	Traditional leaders and community members	123	Researcher was part of a community meeting wherein questionnaires were distributed and members filled in the questionnaires. The process of data gathering from this category of respondents was tedious since a majority of them were illiterate.
08-01-2012	Traditional leaders and community members	88	Follow-up visit where community members who did take part in the survey filled in the questionnaires. The researcher with help of appointed helpers continued with gathering data although once again it proved to be time consuming as alluded to earlier on.
16 to 20 01-2012	Educators	45	Schools within the study area visited and educators diligently completed the questionnaires.
23 to 27 01-2012	Learners	127	The three secondary schools within the study area were visited. Grade 10-12 learners filled in the questionnaires. Learners displayed a great deal of interest in the process of collecting data from them.
15 to 21 07-2012	Traditional leaders and community members	64	During the two community meetings the process of data gathering could not be concluded hence during this week the researcher embarked on a door-to-door campaign which proved to be a success and data gathering from this category was completed.
23 to 27 07-2012	Learners	49	Follow-up visits whereby the whole process of gathering data from learners was finally concluded with success.
Total actual respondents		497	

3.2.3 DATA COLLECTION INSTRUMENTS: QUESTIONNAIRES

For the purpose of the entire data collection process, the researcher had to decide on the data collection instrument that was sufficiently relevant in answering the research questions. De Vos et al. (2011) argue that different types of questionnaires can be used. Grinnell and Williams (1990) explain the use of a mailed questionnaire, which is sent off by mail to the identified respondents to complete. This type of a questionnaire has severe limitations since non-response rate may be very high, missing data may occur frequently, there may be no control to determine the right person in the household to complete it and only literates may complete the questionnaire.

Arkava and Lane (1983) contend that the use of a telephonic questionnaire has similar advantages to the personal questionnaire. The researcher has enough opportunity to explain, literacy level is a non-issue and response rate is high. However telephonic questionnaire has its limitations in that the financial costs could be high. Grinnell and Williams (1990) also highlight the importance of a personal questionnaire (face-to-face) whereby it is handed out to the respondent to complete on his or her own but the researcher is readily available for assistance where and when difficulties are encountered. In this regard the researcher is more like a spectator while the respondent is actively involved in filling in the questionnaire.

Given the fact that a majority of community members are illiterate, mailed or telephonic questionnaires were not the best instrument for data collection. Hence face-to-face interviews were opted for particularly for community and traditional leaders. The researcher used four data collection instruments as contained in Appendix A3. The questionnaires were structured to obtain only basic biographical data about respondents and were designed to obtain answers to the research questions. They were adjusted to address the different literacy levels of the proposed respondents. Babbie et al. (2010) argue that, due to low levels of literacy of the South African population, face-to-face interviews are the most common method used to collect survey data

in national surveys in South Africa. De Vos et al. (2011) share the same sentiment that face-to-face interviewing is the predominant mode of data collection particularly for qualitative research.

The researcher was cautious when face-to-face interviews were conducted particularly when dealing with traditional leaders and community members. The researcher followed some of the face-to-face interviewing techniques and tips as indicated below which are suggested by Jarbandhan and Schutte (2006: 264) adapted from Seidman (1998:63-77):

- a. the respondent must do 90 per cent of the talking. An interview is not a dialogue. The whole point is for the respondent to tell the story
- b. ask clear and brief questions. It is important to use words that make sense to the respondent. Questions should be easy to understand, short and devoid of jargon
- c. ask single questions - ask one question at a time
- d. ask truly open-ended questions - these do not predetermine the answers and they allow room for the respondent to respond in their own terms
- e. start with questions that are not controversial
- f. avoid sensitive questions - the respondent might feel uneasy and adopt avoidance tactics if the questioning is too deep without the necessary rapport
- g. allow for pauses in the conversation. Do not be flustered by periods of silence. Give the respondents a chance to add what they want before hustling them along to the next question. Try not to rush.

The tips and techniques during the data collection process proved to be useful for the researcher. The application of the above tips and techniques throughout the process guided the researcher to stay on course and focused. It did not come as a surprise to the researcher when the process was concluded that the whole process of data collection from the illiterate traditional leaders and community members provided evidence of success.

3.2.4 SAMPLING AND SAMPLING METHODS

The majority of the target population fell into the same geographic location and was decidedly homogenous in nature. The elements within the Masibekela population from which information was gathered included the following: traditional leaders, community members, educators and learners. In addition further data was gathered from Tonga Environmental Centre.

The study then followed one of the non-probability sampling methods, known as convenience sampling. During convenience sampling the researcher selects the respondents. According to Gerber-Nel et al. (2005:166) often the respondents are 'in the right place at the right time' when the sample is drawn.

i) TONGA ENVIRONMENTAL CENTRE

The Tonga Environmental Centre is the brainchild of the Mpumalanga Provincial Department of Economic Development, Environment and Tourism. The offices were strategically placed in the centre of almost all the communities falling under the Nkomazi Local Municipality. The mandates of the Tonga Environmental Centre are the following:

- a. ensuring the provision of environmental programmes and events
- b. facilitating the celebration of environmental campaigns and events
- c. promoting environmental education and awareness.

Basically the centre is charged with the responsibility of ensuring that all communities within the Nkomazi Local Municipality jurisdiction are equally catered for with regard to the provision of environmental events. An appointment was secured with the sector manager for Environmental Education and Awareness for responses to the questionnaire.

ii) TRADITIONAL LEADERSHIP AND COMMUNITY MEMBERS

All the communities within the Nkomazi Local Municipality fall under the authority of traditional leadership. The first stipulation of Chapter 12 of the South African Constitution provides that 'national legislation may provide for a role for traditional leadership as an institution at local level on matters affecting local communities' (RSA, 1996). Whatever development or event that has to take place in any community, the traditional authority is consulted. So, in relation to this study, any environmental event that has to take place within the study area would be provided in consultation with the traditional leadership of the area. For the purpose of conducting a survey in the village, permission was sought first and was granted.

iii) EDUCATORS AND LEARNERS

Educators formed one category of respondents. Unlike some of the learners who struggled in responding to the questionnaires, the educators managed to fill in the questionnaires with great ease. Learners constituted the second largest percentage of population of the study area. The learners were considered as potential elements from which necessary and valuable information regarding the provision of environmental events could be retrieved.

Because three major elements of data collection, the community members, educators and learners were from the same geographic location, the non-probability sampling method was used. Gerber-Nel et al. (2005:176) maintain that non-probability sampling methods are favoured when:

- a. 'a small sample needs to be drawn
- b. the population is very homogenous
- c. time and money are important
- d. population estimates (means, standard deviation, etc.) are not important

- e. the expected cost of errors is not very high
- f. the researcher wants to obtain a very broad view of the population’.

Brynard and Hanekom (2006:56) contend that ‘there are no fixed rules for determining sample sizes but only guidelines’ but suggest that a representative percentage of the population should be studied. The following are guidelines that could be followed:

- a. the more homogenous the population, the smaller the sample required
- b. if sample error is a probability, the sample should be as large as possible. The larger the sample, the more accurate the conclusions drawn will be.

For the purpose of this study, Table 3.2 was used for determining the relative sizes of different survey population elements. It was suggested by Stoker (1985) and was recommended by De Vos et al. (2002:201), for use as a simple guideline in determining sample sizes.

Two sources of actual population data for Masibekela were used to identify a suitable sample population size for the questionnaire survey. According to the Integrated Development Programme (IDP) of 2010/2011 of the Nkomazi local municipality, the population of the study area stood at 10 668. According to the 2011 Snap Survey from the Mpumalanga Department of Education, there were about 4 133 learners in Masibekela. By subtracting learners from the total population, this left 6 535 general community members (Table 3.3).

Table 3.2 Population sample size (after Stoker 1985) as quoted by De Vos et al. (2002:201)

Population	Percentage suggested	Sample (number of respondents)
20	100%	20
30	80%	24
50	64%	32
100	45%	45
200	32%	64
500	20%	100
1 000	14%	140
10 000	4.5%	450
100 000	2%	2 000
200 000	1%	2 000

Table 3.3 Actual population of Masibekela

Population Category	Actual number	%
Traditional leaders & community members	6 535	61%
School learners	4 133	39%
Total	10 668	100%

Table 3.4 indicates the actual sample size in accordance with the guidelines suggested by Stoker (1985 cited in De Vos et al., 2002:201). The calculations in Tables 3.3 and 3.5 were based on the total population of 10 668 in the study area.

Table 3.4 Total survey population sample size

Population	Percentage suggested	Sample (number of respondents)
10 000	4.5%	450

Table 3.5 Target sample size per category of respondents

Respondent Categories	Actual number	Breakdown of total sample*	Actual Sample number
Sector Manager: Environmental Education and Awareness*	1	100 %	1
Traditional leadership and adult community members	6 535	61 % of 450	275
Learners (were drawn from Grades 10 to 12)	4 133	39 % of 450	176
Educators (make up 140 based on an average teacher: pupil ratio of 1:30)	140	up to 32 %	45
Total number of respondents			497

* as recommended by Stoker (1985)

Of the 4 133 learners, only 1 004 or 24 % were in Grades 10 to 12. Respondents were drawn only from these senior learners to represent the opinions of all school learners in the study area.

3.3 RELIABILITY AND VALIDITY

The items that constituted the questionnaires were carefully selected in order to test the research questions in the study. The researcher planned that the items in the questionnaires in no way deviated from the objectives but measured what they were supposed to measure. Ritchie and Lewis (2003:270) argue that reliability is generally understood to be concerned with 'the replicability of research findings and whether or not they would be repeated if another study, using the same or similar methods was undertaken'.

For the reasons of reliability, the following issues were considered important:

- a. Having identified the categories of respondents from the Masibekela community, individuals who made up the sample elements were selected without the personal bias of the researcher.
- b. Fieldwork was carried out consistently and allowed respondents sufficient opportunities to cover relevant ground and to portray their experiences objectively.

By conducting the research with the above issues in mind, the researcher felt confident that the findings could be replicated.

'The validity of findings or data is traditionally understood to refer to the correctness or precision of research reading. It is often explained as a concept with two distinct dimensions, the first known as internal validity, concerned with whether you are investigating what you claim to be investigating. The second termed external validity, concerned with the extent to which abstract constructs or postulates generated, refined or tested are applicable to other groups within the population' Ritchie and Lewis (2003:273).

To avoid deviation from what the research intended to investigate, the research instruments (questionnaires in Appendix A3) were designed in line with both the research questions and the objectives of the study. The fact that the target population fell into the same geographic location and was homogenous in nature, (i.e. individuals lived in one area, belonged to the same racial or ethnic group and received the same services from government or the local municipality) made it highly possible to arrive at the same conclusion if another group from the target population was sampled as respondents.

3.4 CONCLUSION

Based on the research design and methodology, the researcher justified the use of research paradigms such as qualitative and quantitative. The constraint of the prevailing illiteracy amongst the majority of community dwellers was overcome by the methodology that was adopted. Basically the chapter highlighted how the entire process of data collection unfolded and why a research instrument such as a questionnaire was used as the best tool for collecting data from the four categories of respondents. Data gathered from the four sets of respondents is presented and analysed in the next chapter.

CHAPTER 4

DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

This chapter explains in detail how both the quantitative and qualitative data were analysed. It further presents and analyses the data gathered from all four categories of respondents, namely, the sector manager, traditional leadership and community members, learners and educators. The quantitative data presented and analysed was captured in Microsoft Excel spreadsheets. Interpretation of all data presented in this chapter is fully elaborated in Chapter 5 of the project which focuses solely on interpretation, findings as well as recommendations.

4.2 CALENDAR OF NATIONAL AND INTERNATIONAL ENVIRONMENTAL DATES

South Africa is a signatory to a number of environmental treaties or protocols such as 1997 Kyoto Protocol to the Framework Convention on Climate Change, 1992 Convention on Biological Diversity and 1988 Vienna Convention for the Protection of Ozone Layer. Informed by its commitment to preserve our environment for future generations, the South African government continues to redouble its efforts by participating in or becoming an active member of various international environmental programmes or organizations such as the United Nation Environmental Programme (UNEP), World Meteorological Organization (WMO) and Friends of the Earth International. Recently South Africa became the first country in 2013 and the twelfth country overall to ratify the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their utilisation. South Africa became Party to the Convention on Biological Diversity in 1995. By virtue of South Africa's active membership of world environmental

programmes and organizations, and being signatory to some environmental treaties or protocols, the country participates in and celebrates some of the most important world environmental dates.

There are numerous environmental dates which are recognized by the South African government as indicated on the departmental website but the following in Table 4.1 annually receive much attention. Knowledge of these environmental celebrations was used as the indicator of environmental awareness amongst the survey respondents.

Table 4.1 Calendar of commemorative environmental dates

Day / Month	Name of environmental event
1. 2 February	World Wetlands Day
2. 22 March	World Water Day
3. 22 May	World Biodiversity Day
4. 05 June/ 1 st week in June	World Environmental Day /Week
5. 1 st week of September	World Arbor Day /Week
6. 16 September	World Ozone Day
7. 27 September	World Tourism Day
8. 1 st Monday in October	World habitat Day
9. 3 rd week in October	National Marine Week
10. No specific date set aside yet	Climate Change Programme

Source: https://www.environment.gov.za/events/department_activities

4.3 OVERVIEW OF THE TWO TYPES OF DATA SETS

In line with the questions in the questionnaires (Appendix A3) two sets of data were gathered, quantitative and qualitative data. Two distinctive methods of analysing the two sets of data were applied.

4.3.1 QUANTITATIVE DATA SET

Information that fell under quantitative data was analysed using statistical techniques. Walliman (2011:114) contends that 'you do not need to be a mathematician to use statistical techniques, as user-friendly computer packages such as Excel and SPSS-Statistical Package for Social Sciences are available'. For the purpose of data analysis, the researcher applied the use of Microsoft Excel. Codes added to response choices on the questionnaire sheets simplified the transfer of data to the Excel program. With the application of Microsoft Excel the coded responses were, without any difficulty, manipulated to determine the following:

- a. number of male and female respondents
- b. number of respondents who agree or disagree, support or are against a certain idea as contained in the questionnaire
- c. number of respondents who know about a certain environmental programme or campaign and those who are uninformed
- d. comparison of percentages found in the three sets of respondents to certain common questions.

4.3.2 QUALITATIVE DATA SET

According to Walliman (2011) the analysis of qualitative data has never been easy. Walliman (2011:131) further comments that 'unlike the well established statistical methods of analysing quantitative data, qualitative data analysis is still in its early stages. The certainties of mathematical formulae and determinable levels of probability are difficult to apply to the 'soft' nature of qualitative data, which is inextricably bound up with individual feelings, attitudes and judgements and their interplay in society'.

For the purpose of analysis of qualitative data the researcher followed the methods suggested by Miles and Huberman (1994:10-12) that they termed the three concurrent flows of action – data reduction, display and verification.

i) DATA REDUCTION

Miles and Huberman (1994) argue that 'our minds are not good enough at processing large amounts information, preferring to simplify complex information into patterns and easily understood configurations. Therefore data reduction through coding, clustering and summarizing provides the first step to simplification'. Data containing more or less the same denotation was simplified and grouped together in different categories.

ii) DATA DISPLAY

Data reduction was followed by arranging the compacted data into diagrams and tables. The basic tool that was used for displaying classified data was simple tables from Excel spreadsheets. Where it was required for further clarification, bar graphs were generated from the data to illustrate links between the data elements.

iii) CONCLUSION DRAWING / VERIFICATION

The third step was to explore relationships and gauge the relative significance levels of different factors. In this case the researcher strove to compare responses to questions from the four categories of respondents. For instance, the researcher established, which category of respondents was more informed about environmental issues e.g. youth versus the educators and educators versus community members.

Contained within the three concurrent flows of action is the idea of determining associated data that can be grouped together in a systematic way. The data was analysed in different ways especially by category. The spreadsheet was meticulously designed to aid data analysis to meet the research objectives.

4.4 DATA PRESENTATION AND ANALYSIS BY RESPONDENT CATEGORY

The data gathered through the use of research questionnaires from the four sets of respondents is presented and analysed quantitatively and qualitatively using various techniques as outlined above.

4.4.1 SECTOR MANAGER: TONGA ENVIRONMENTAL CENTRE

As indicated in Table 3.5, the sector manager responsible for Tonga Environmental Centre was the only respondent interviewed in this category and the information collected was systematically captured as indicated below. As the person responsible for the operation of the centre, the sector manager was able to provide all necessary information that was required.

The centre is near the Tonga police station and it is well sign posted and easily accessible. Grounds and buildings are well maintained with examples of vegetable gardening. On all visits the researcher found staff members available who were friendly and informative. During informal discussions with the environmentalists based at the centre, the following concerns were raised:

- a. The centre is understaffed
- b. The persistent prevalence of environmental problems in villages under the jurisdiction of the Tonga Environmental Centre.

The centre was established about 15 years ago and was entrusted with the responsibility of providing environmental education and awareness. The sector manager believes the centre lives up to expectations because he trusts that the information given to clients is well-received since his office has not received negative feedback or complaints and because changes for the better in various places under his jurisdiction are witnessed. The centre has an annual environmental programme and its employees are expected to visit one

of the communities under its jurisdiction each day. The centre celebrates the following internationally recognized environmental programmes with the community that are adopted by South Africa through its ratification of various treaties and their commemoration is expected on specific environmental occasions:

- a. World Wetlands Day
- b. World Water Week
- c. World Biodiversity Day
- d. World Environmental Day/Week
- e. World Arbor Day/Week
- f. World Ozone Day
- g. World Tourism Day
- h. World Habitat Day
- i. National Marine Week
- j. Climate Change.

In celebrating the above programmes the centre targets the following groups:

- a. learners
- b. churches
- c. community members
- d. groups such as sports clubs.

The sector manager is satisfied with the role the centre plays in the provision of these environmental programmes. Although the centre provides environmental programmes he concedes that the following environmental problems as identified in the questionnaire (Appendix A3) are witnessed within the study area:

- a. air pollution
- b. deforestation
- c. dumping
- d. littering
- e. soil erosion
- f. water pollution.

In terms of the data gathered from the sector manager, the centre has four qualified environmentalists, holding appropriate three year tertiary qualifications in Natural Science/Environmental Management or equivalent qualifications. They service about thirty villages under the Nkomazi Local Municipality, illustrated by the map in Figure 3.1. The Department of Environmental Affairs occasionally provides in-service training or workshops with the aim of enabling the employees to execute their duties concerning promoting environmental education and awareness effectively and efficiently.

4.4.2 TRADITIONAL LEADERSHIP AND COMMUNITY MEMBERS

Of the 275 respondents in this category, two were Indunas or traditional leaders. Induna is a South African word used to mean someone assigned by the chief of a tribe to oversee a certain village. The R571 road divides the village into two halves as shown in Figure 3.3, hence the two Indunas are responsible for each section of the study area.

All five different age groups of community members were represented in terms of taking part in filling in the questionnaires (Table 4.2). The majority of respondents were those between the ages of 21-30, where 85 out of the 275 fell into this group. This was followed by those from 41-50 years old (70), those who were 51 years old and older (55), 53 were between 31-40 years old and very few were 20 or younger.

Table 4.2 Respondents per age group (n=275)

Age groups	Number of respondents
1. 20 years and younger	12
2. 21-30 years	85
3. 31-40 years	53
4. 41-50 years	70
5. 51 and above	55
Total number of respondents	275

Of the respondents 130 or 47% were males and 146 or 53% were females. The majority of respondents (66%) know about at least one day or some days on which something special about the environment is celebrated as shown in Table 4.3. The remaining 34% of the respondents had never heard or seen anything special celebrated about the environment in their community.

Table 4.3 Knowledge of environmental events per age group (n=275)

	20 and below	21-30 years	31-40 years	41-50 years	51 and above	Total	Per cent
Yes	9	75	43	40	14	181	66%
No	3	10	10	30	41	94	34%
Total	12	85	53	70	55	275	

The first four age categories indicate a contrasting phenomenon compared to the last age group of 51 years and above. A majority of respondents in the first four age groups know of at least one environmental day whereas for those of 51 years and above, the opposite is true. A total of 41 respondents out of 55 in this age group, which is about 75%, had never heard or seen anything special celebrated that related to the environment.

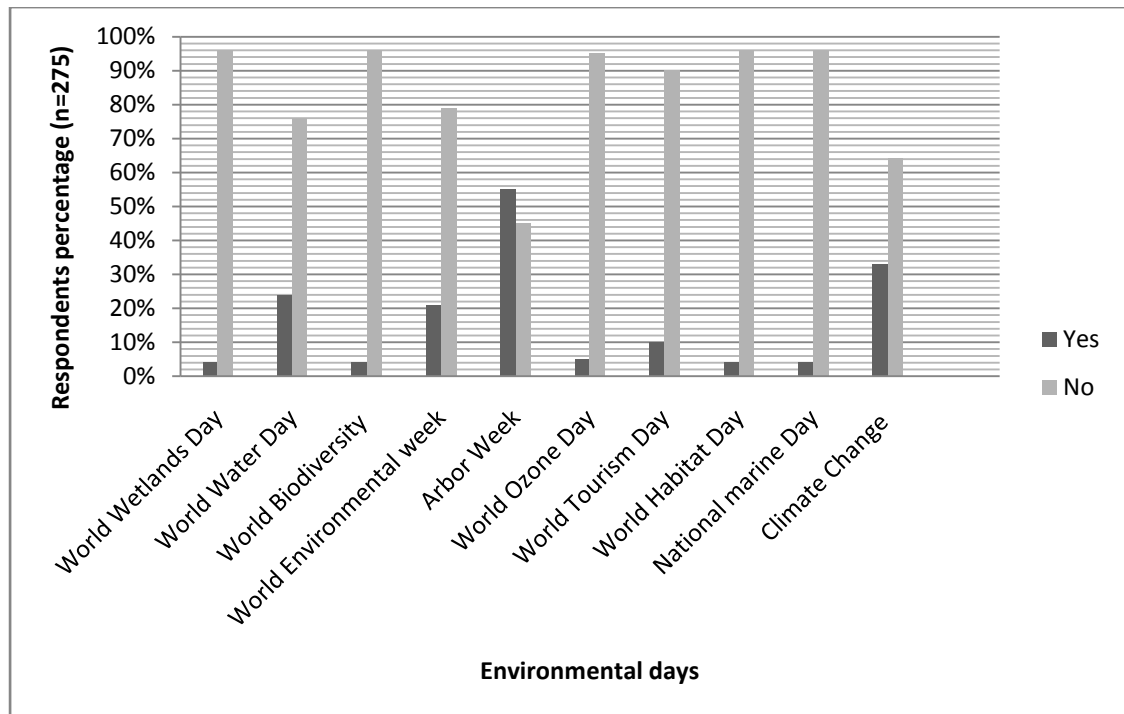


Figure 4.1 Awareness of significant environmental days

The 275 respondents had to indicate whether or not they had knowledge of each of the significant environmental days. Each of these days had a weight of 100% and the total percentage was split between those who knew any significant day and those who did not. In terms of Figure 4.1 there is a variation in relation to knowledge of each of the important environmental days by community members. Arbor day/week appears to be the most popular day known by a majority of respondents due to publicity given to planting trees particularly in schools. About 55% of respondents know about Arbor day whereas 45% know nothing about the day. Mostly those respondents who happened to know or had heard of any of these days were particularly the younger generation, respondents who had managed to be part of the primary or secondary schooling system of education when they were growing up. The evidence in Table 4.3 illustrates the fact that respondents up to the age of 40 years old have some knowledge of significant environmental days as compared to those of 50 years old and older who have very little knowledge of such days.

Some knowledge of climate change was indicated by 33% of respondents. It seems to be the second best known issue amongst respondents within the study area. Other days such as World Ozone Day, World Habitat Day, World Biodiversity Day as well as National Marine Day are almost unknown days to the majority of respondents. Each recorded less than 6% in terms of being known to the respondents. The interpretation of these findings is dealt with in the final chapter of the project.

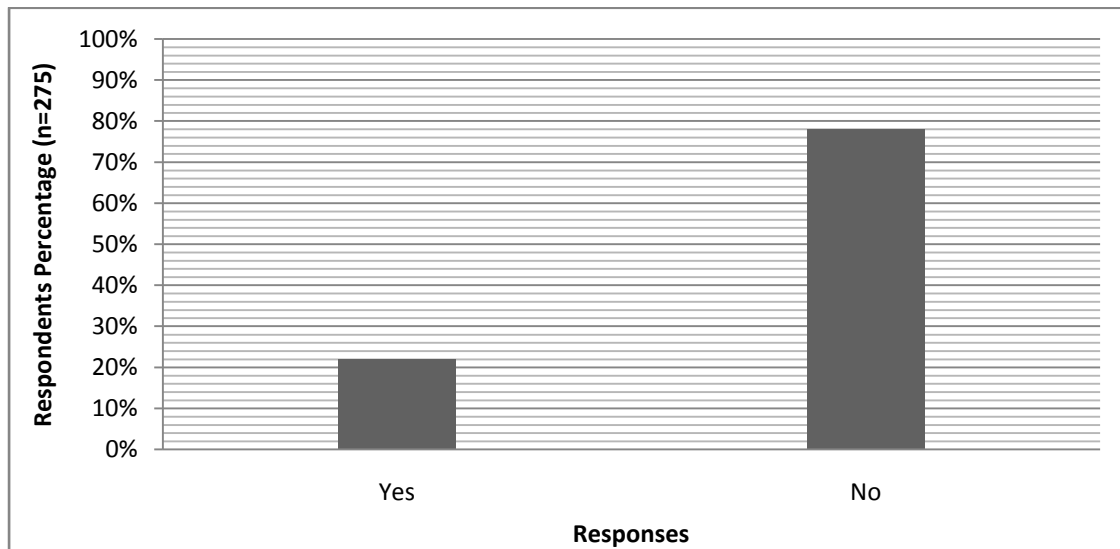


Figure 4.2 Community celebrations of any environmental days

Figure 4.2 indicates that 22% of the 275 community members from which data was collected do celebrate some of the environmental days. A very high percentage (78%) of respondents had never in any way as community members celebrated any environmental programme or event.

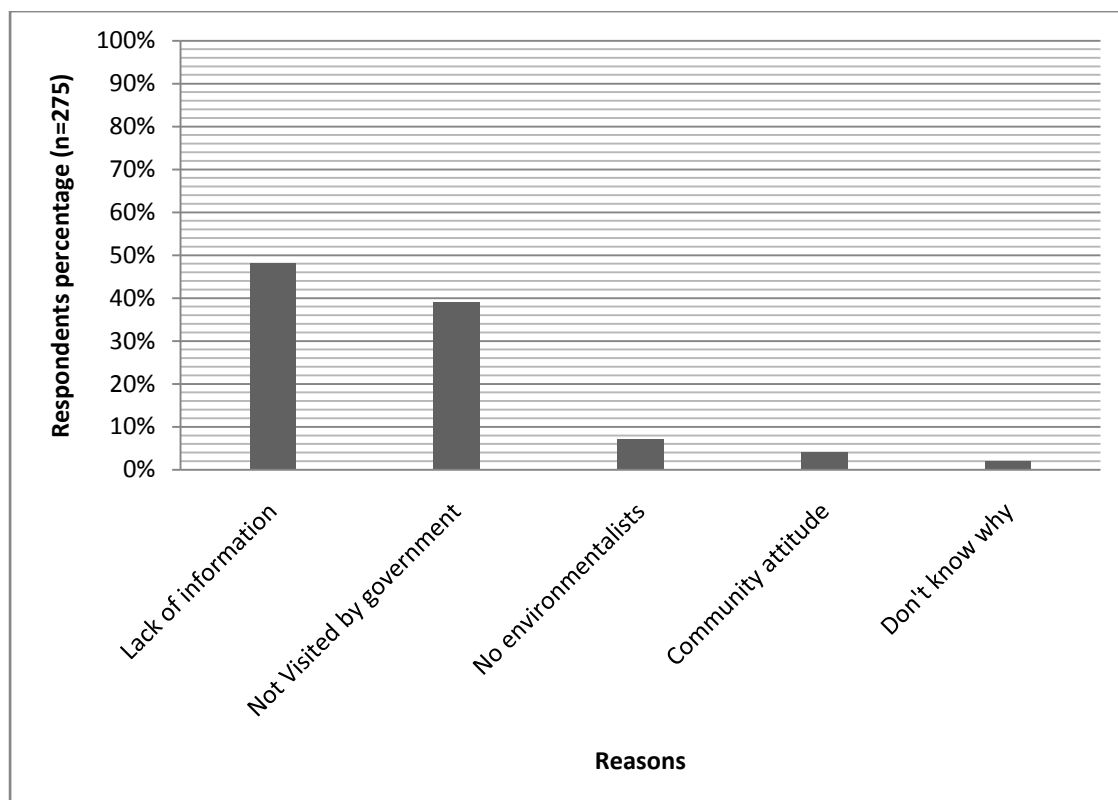


Figure 4.3 Reasons why environmental dates are not celebrated

As a follow-up question based on the data presented in Figure 4.2 as to why community members are not celebrating these environmental days, the respondents' comments could be grouped into five related responses (Figure 4.3). About 48% of the respondents felt that the lack of environmental information remains the main cause for the community not bothering about environmental events on special dates. Attributed to or compounding their lack of information is ineffectiveness of government to provide environmental education and awareness on their doorsteps. Thirty-nine per cent felt or expected the government to appoint a representative who would be committed to visiting their community. About 7% highlight the lack of qualified environmentalists dedicated to servicing their community. Only 4% blamed the lack of celebration on apathetic community attitude and a mere 2% could give no reason at all.

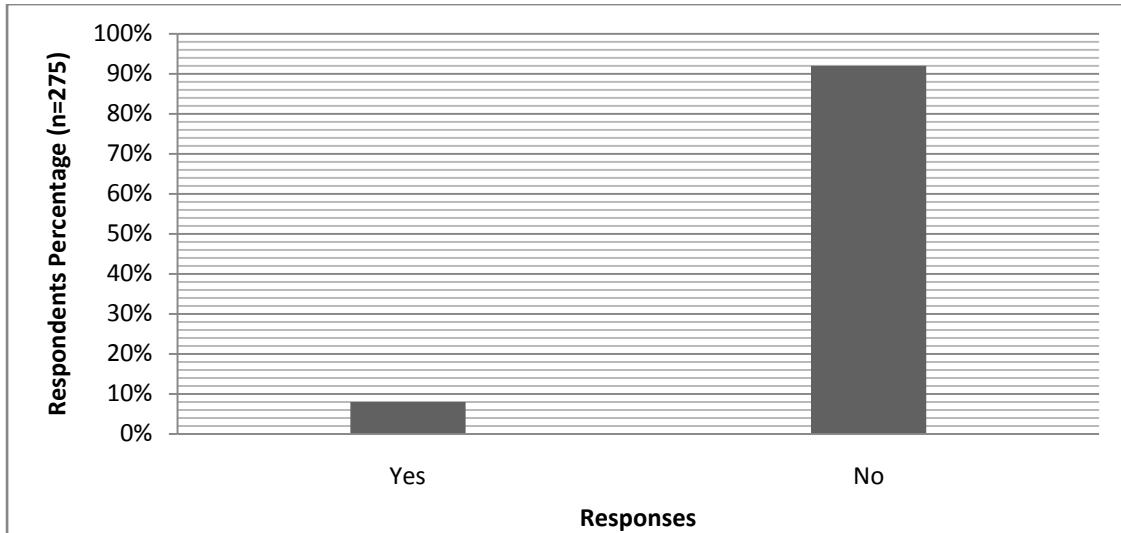


Figure 4.4 Awareness of government's visits to the community

Figure 4.4 shows that while there is a number of respondents who argue that the government does visit their community, the majority completely deny that they are sometimes visited by the government to inform them about any environmental programmes, campaigns or events. Only 8% of the community members point out that the community is visited by government while 92% (Figure 4.4) strongly refute any claims that government sometimes visits their community.

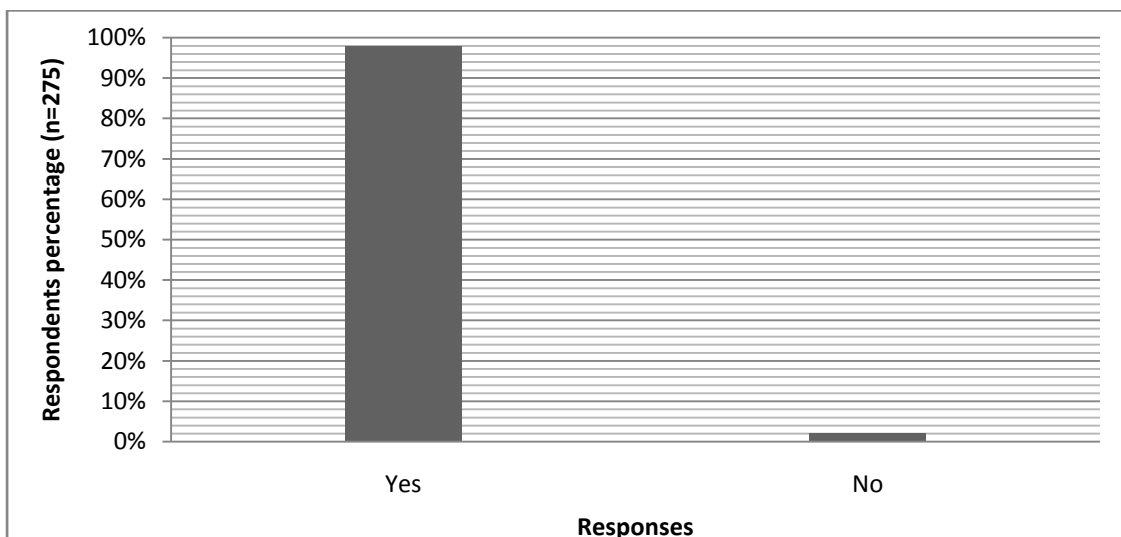


Figure 4.5 Respondents observing environmental problems (2012)

An overwhelming 98% (Figure 4.5) of the community member respondents concur that there are numerous environmental problems in their area while

2% could not identify anything which could be described as an environmental problem.

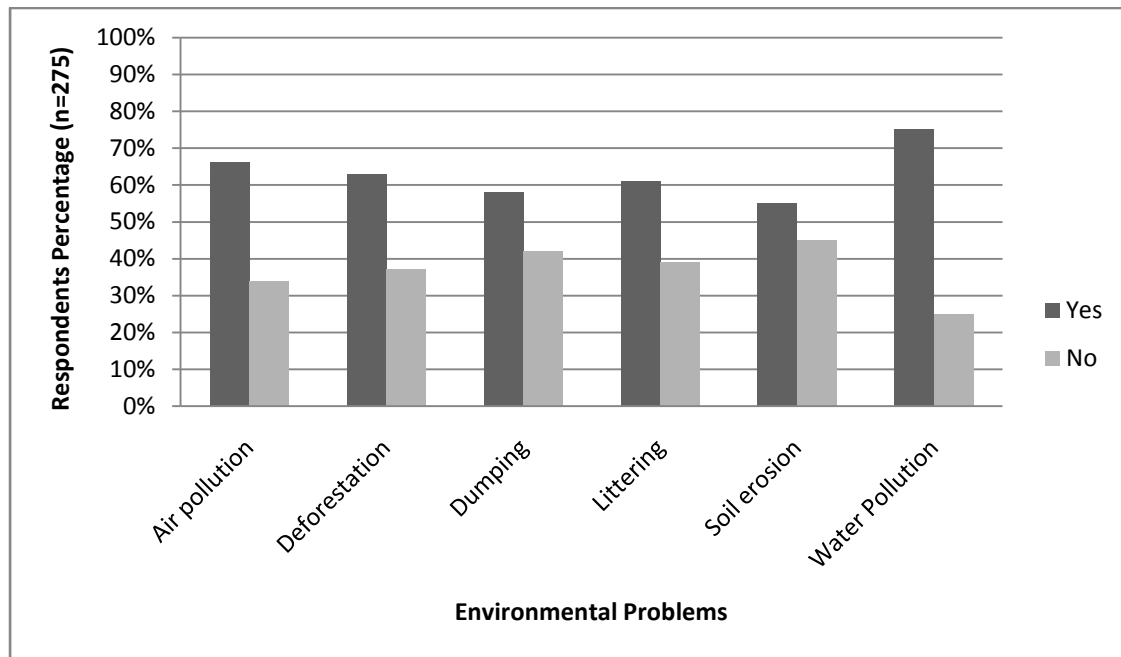


Figure 4.6 Environmental problems identified in the study area (2012)

The 275 respondents had to indicate whether or not they witness any environmental problems in the study area. Each of the environmental problems had a weight of 100% and the total percentage was split between those who witnessed any environmental problems and those who did not. The types of environmental problems witnessed within the study area are illustrated in Figure 4.6. Of the 275 respondents about 66% indicate that there is a problem of air pollution while 34% do not perceive air pollution a phenomenon prevalent in the study area. Sixty-three per cent of the sample population complain about deforestation, 58% is about dumping, 61% witness littering, 55% feel uncomfortable with soil erosion and a staggering 75% severely decry the issue of water pollution.



Figure 4.7 Selection of photographs taken around Masibekela by the researcher to illustrate the respondents' concerns about littering

The photographs in Figure 4.7 are supporting the views expressed in Figure 4.6 by the community members in terms of existence of environmental problems within the study area. Dumping and littering are common sights particularly within school premises and near shops.

Table 4.4 Forms of media in the community

Form	Percentage
Newspapers	31%
TV	30%
Radio	29%
Magazines	10%

Various forms of media are available in the study area (Table 4.4). Thirty one percent of the respondents have access to newspapers. A majority of the respondents enjoy reading a daily newspaper known as Daily Sun, 30% watch TV, 29% listen to radio and only 10% read magazines.

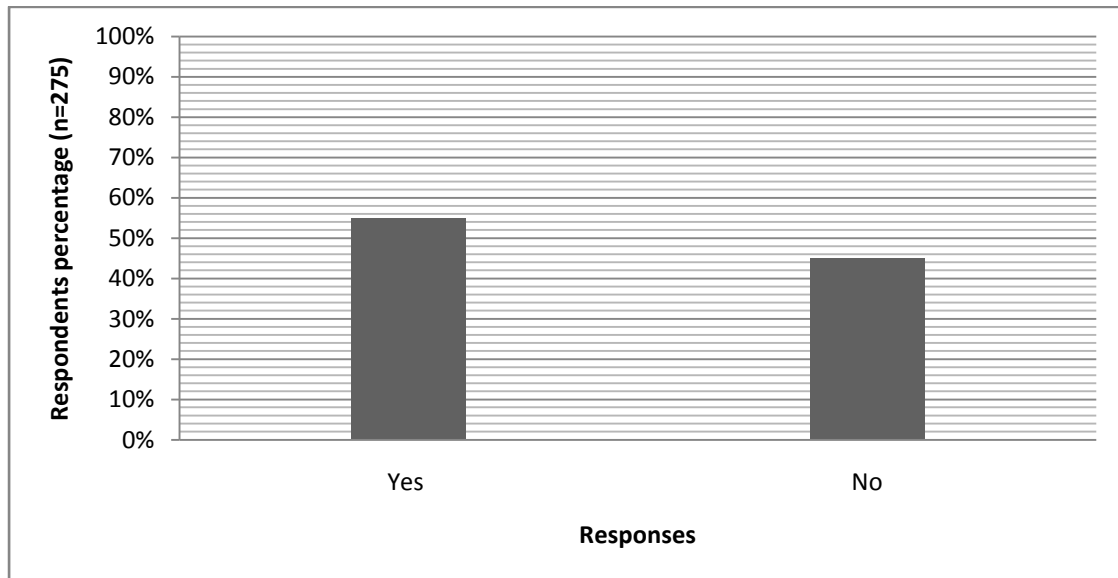
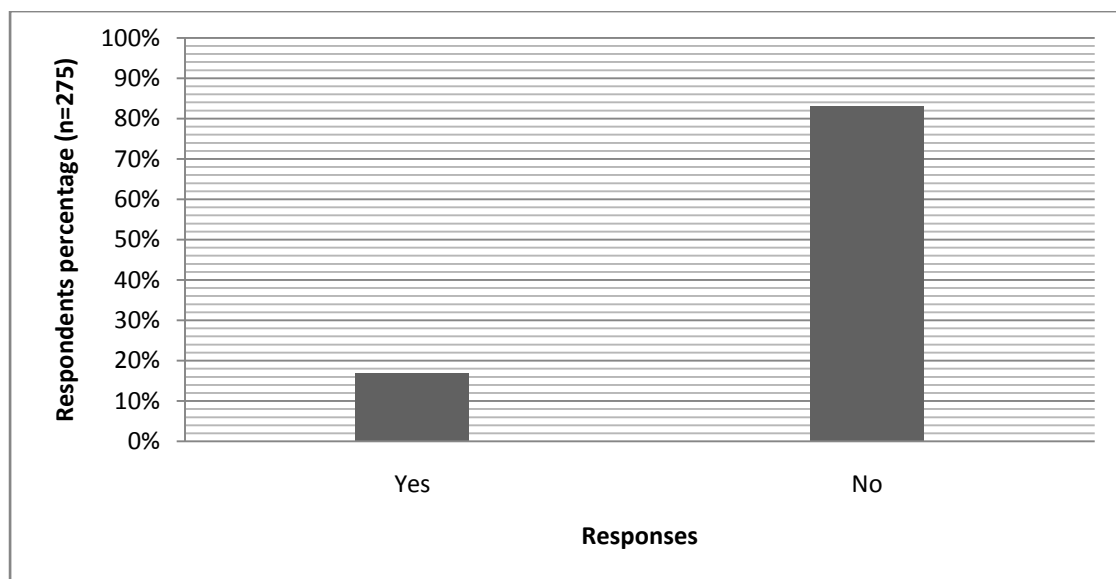


Figure 4.8 Environmental programmes on radio or TV

A total of 55% of the respondents concur that there are TV or radio programmes dedicated to environmental issues (Figure 4.8). There are programmes both on free to air channels and paid TV channels. Free channels broadcast *Planet Earth Nature* every Sunday at 18h00 on SABC3 and *50/50* every Thursday at 22h00 on SABC2. There are daily programmes on pay-to-view DSTV such as *National Geographic* on channel 181. Channel 182 hosts *National Geographic Wild* (NGWLD) and channel 183 broadcasts *Animal Planet*. The remaining 45% are not aware of any environmental programmes hosted on TV or radio.



4.9 Environmental programmes reaching community

Figure 4.9 is a follow-up to Figure 4.8 which indicated that 55% of respondents agree that there are dedicated environmental programmes on TV. However, 83% feel that the programmes are not accessible enough to the majority of community members. Seventeen percent of the respondents are satisfied with the role played by TV or radio in the coverage of environmental programmes.

4.4.3 LEARNERS

This category of respondents showed much interest and enthusiasm when filling in the questionnaires. Unlike the community members, the school learners were able to read and respond to questions with little assistance from the researcher. The attitude and interest shown by the learners was incredible and it was not surprising that the questionnaires collected from the learners surpassed the target sample of 176 respondents under this category (Table 3.5). Of the 220 questionnaires, the researcher selected those that were most legible and complete. Males constituted 48% of the respondents and females 52%.

Table 4.5 Learners per age group (n=176)

Age groups	Number of respondents
1. 15 years and below	12
2. 16 years	32
3. 17 years	46
4. 18 years	47
5. 19 and above	39
Total number of respondents	176

Table 4.5 presents the five age groups of respondents still at school that participated in the survey. Their ages ranged from less than 15 to over 19 which is definitely representative of FET learners.

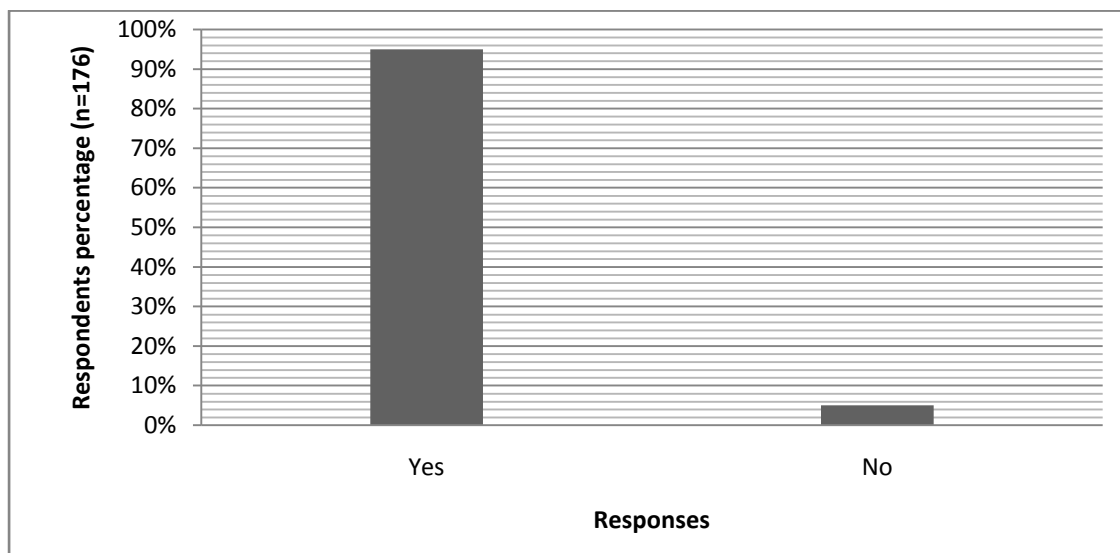


Figure 4.10 Learners learnt about environment

Encouraging results came from learners who intimated they had learnt things that pertained to the environment and 95% of them have learnt about specific environmental issues in their school studies (Figure 4.10). Only 5% had not learnt anything related to the environment.

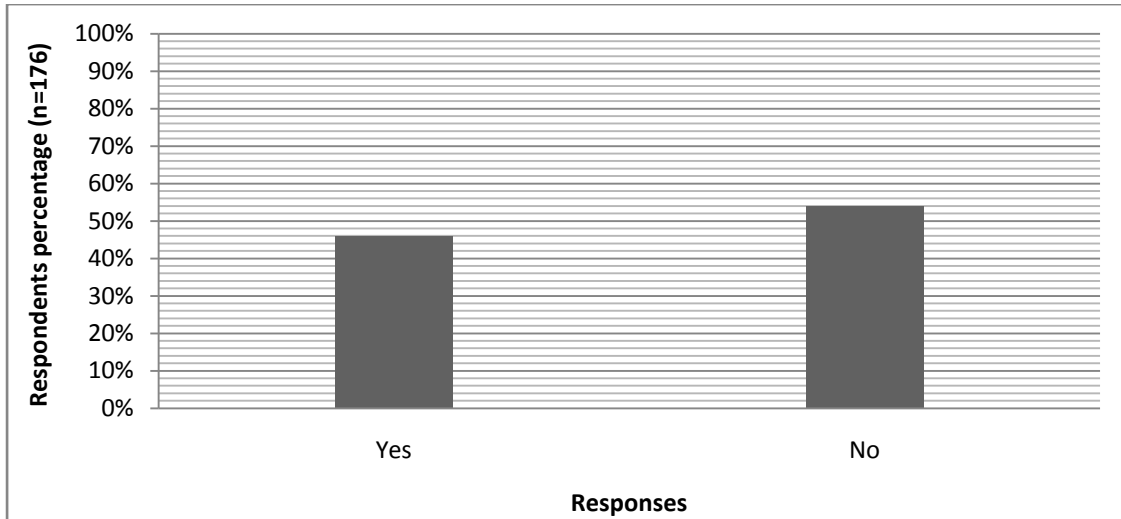


Figure 4.11 Subject exclusively on environmental studies

As illustrated in Figure 4.11, 46% of the learners concur that there is a learning area exclusively on environmental issues while 54% dispute the notion of a specific learning area on environmental issues, this might be because the terminology is unfamiliar.

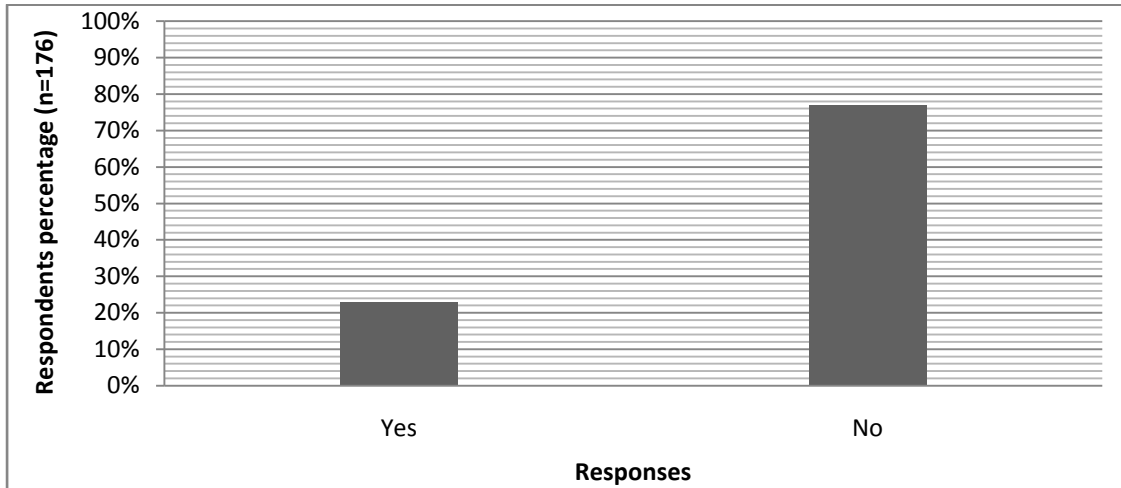


Figure 4.12 Knowledge of a list/calendar of environmental dates

As far as knowledge of the environmental calendar is concerned, Figure 4.12 shows the percentage of learners that know about it compared to those who refute the availability of an environmental calendar in the schools. Only 23% of the learners agree that there is a list or calendar of environmental dates for the year in the school. Even though the majority indicate that the calendar is not displayed, 70% of the learners concur that they celebrate some

environmental events within the school premises (Figure 4.13) while the remaining 30% of them have never witnessed any environmental event celebrated at the school.

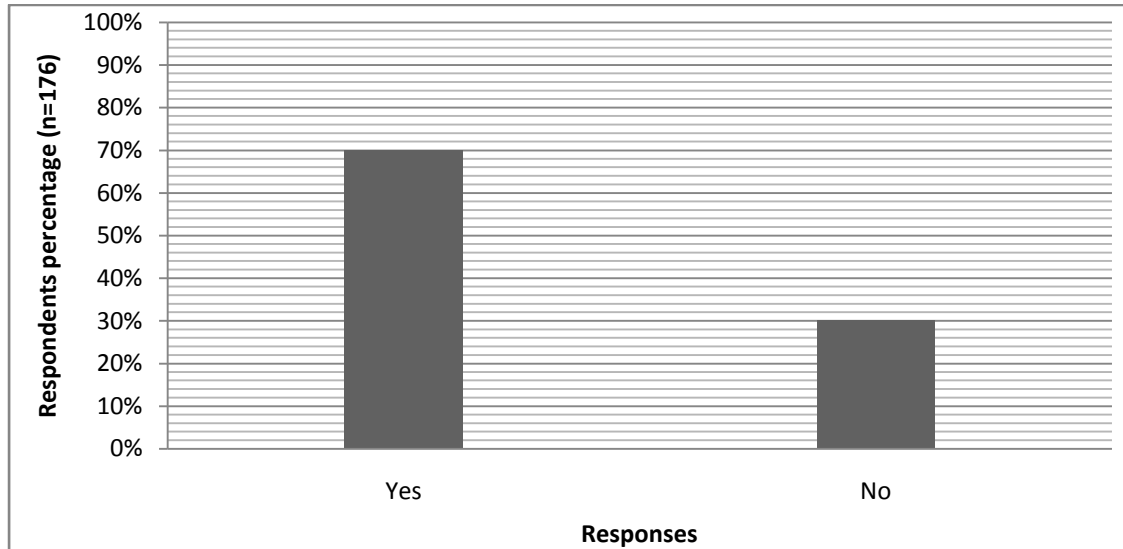


Figure 4.13 Celebration of events within school

The visits of government officials appear to be biased towards schools. Community members condemn both government and the local municipality for not caring for their community environmentally as shown in Figure 4.4. The comparison between visits to the community and visits to schools is explored towards the end of the chapter.

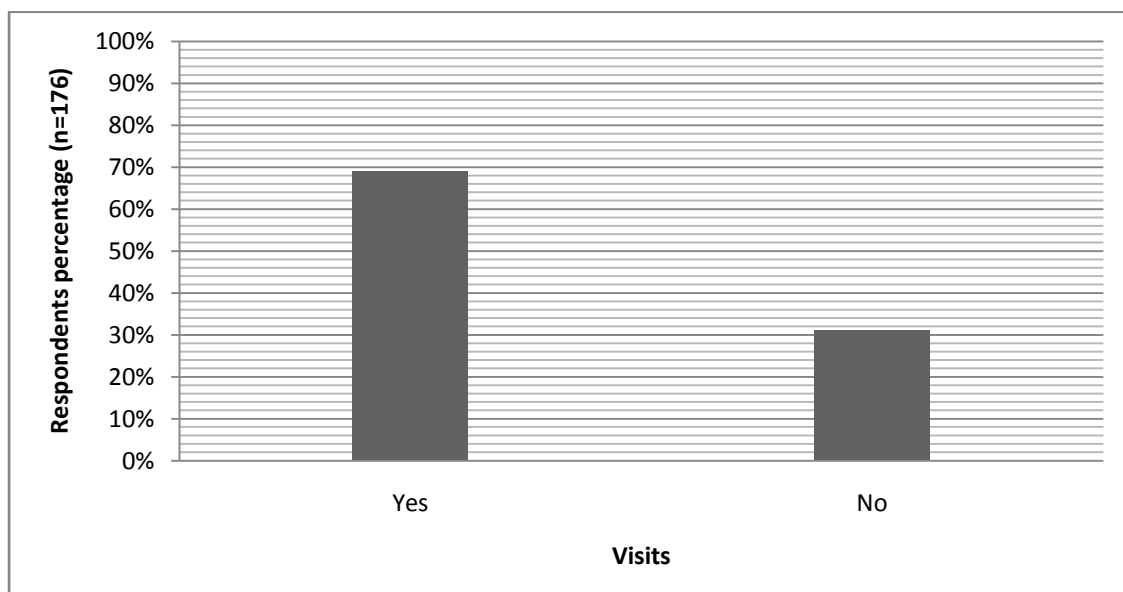


Figure 4.14 Awareness of government officials' visits to schools

Schools are sometimes visited by people or government officials to inform learners about environmental issues (Figure 4.14). Nearly 70% of learners are in agreement that government officials do visit their schools for the sake of promoting environmental education and awareness. Then 31% deny that officials visit schools to inform learners about environmental matters.

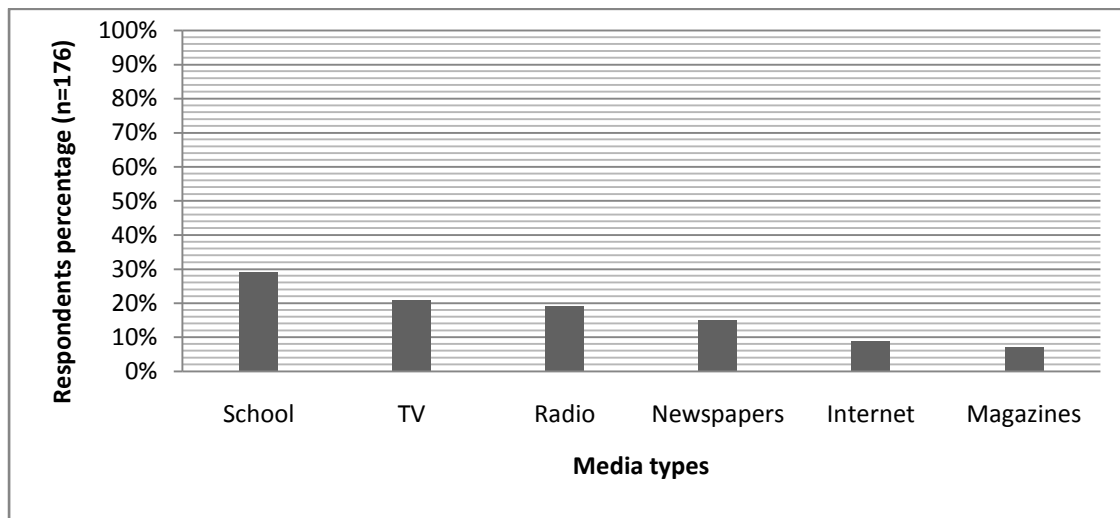


Figure 4.15 Means through which learners hear about environment

Ways in which learners get to hear about environmental issues is illustrated in Figure 4.15. Out of the 176 learners, 29% normally hear about the environment at school, 19% get environmental information on the radio, 15% from newspapers and 7% from magazines. TV at 21% is second only to the school as a means of obtaining environmental information and 9% acquire it through the internet.

4.4.4 EDUCATORS

The educators showed great interest and cooperation in filling in the questionnaires. This group of respondents did not in any way request any assistance in responding to the questions since all of them were qualified educators with at least an educators' diploma or degree. A total of 45 educators participated, 51% of them were females as compared to 49% males.

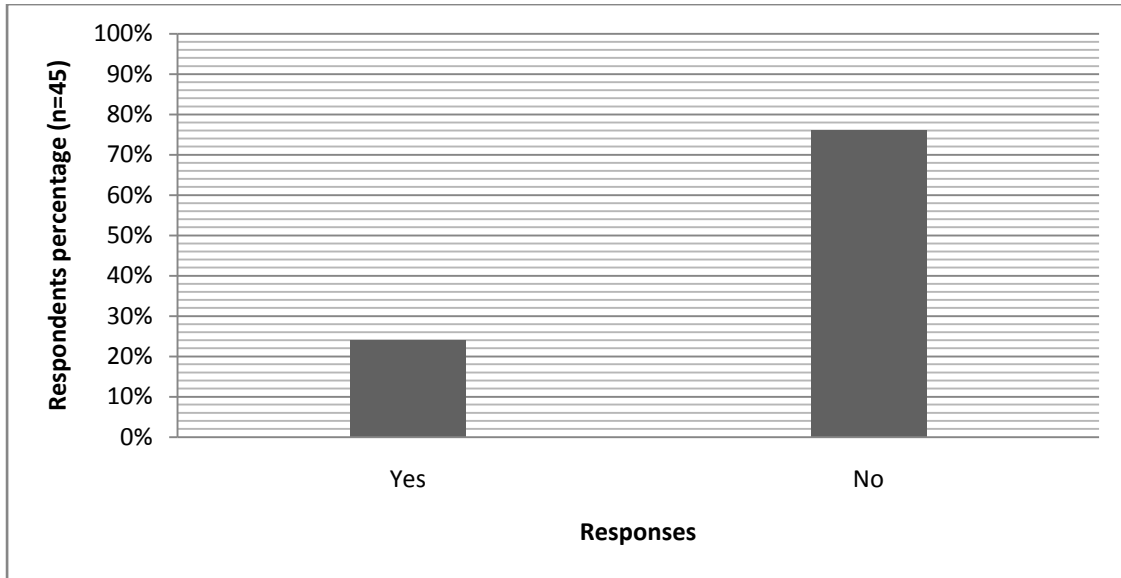


Figure 4.16 Subject exclusively on environmental issues

Figure 4.16 indicates that 76% argue that there is no subject specifically on environmental issues whereas 24% concur on its availability. A further interaction indicated that all the forty five educators within the study area feel that there was a need for the inclusion of a subject integrating environmental themes into other learning areas in the school curriculum.

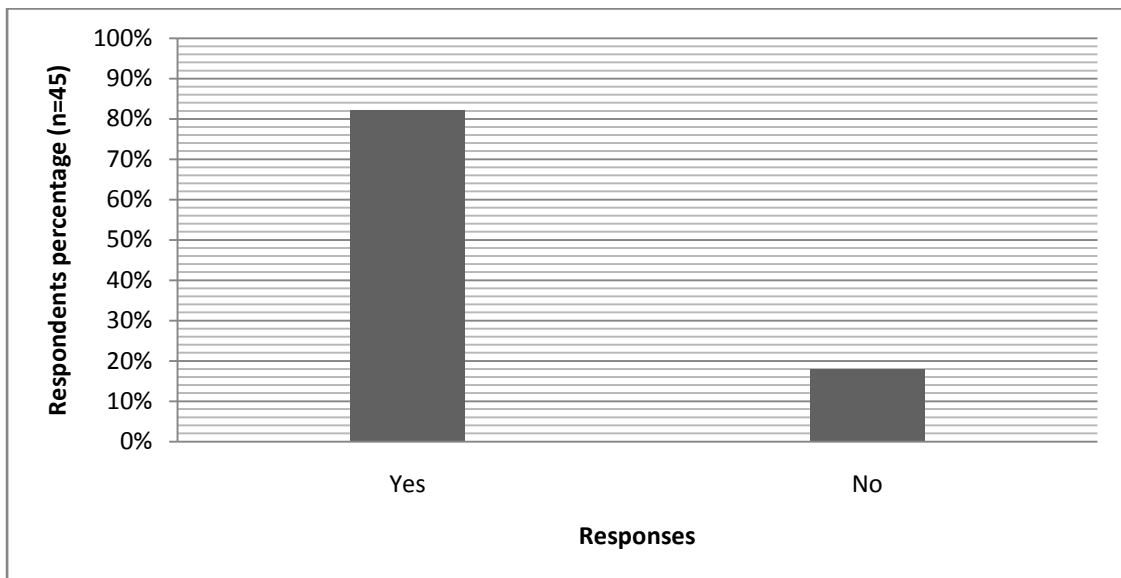


Figure 4.17 Educators knowing about and celebrating environmental dates

The majority of educators (82%) know of some of the environmental dates whereas 18% of them are oblivious to such dates (Figure 4.17). This figure also reflects whether the dates are celebrated or not. When asked about the

celebration of environmental dates within the school premises, it emerged that 82% celebrate environmental dates while the other 18% of educators do not celebrate any environmental dates within the school.

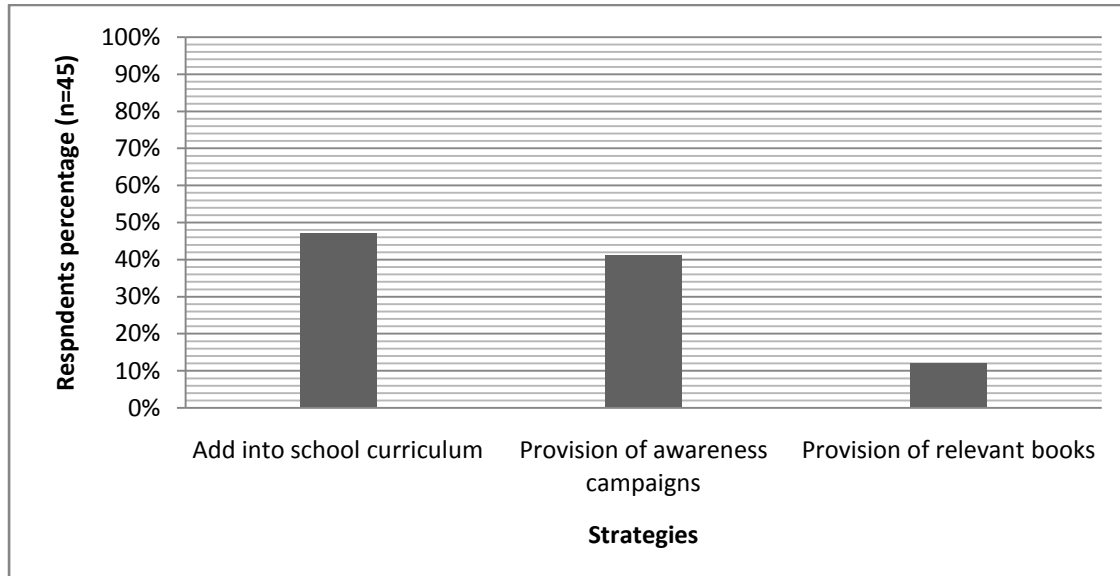


Figure 4.18 Strategies to deliver environmental programmes

The educators suggest various strategies aimed at promoting environmental programmes, campaigns and events at schools (Figure 4.18). Out of the 45 educators surveyed 47% suggest that the addition of environmental programmes and events into school curriculum can play a pivotal role in promoting such events, 41% are of the opinion that effective provision of environmental education and awareness can be a useful tool whereas only 12% indicate that the provision of relevant textbooks can assist in the delivery of environmental programmes to schools.

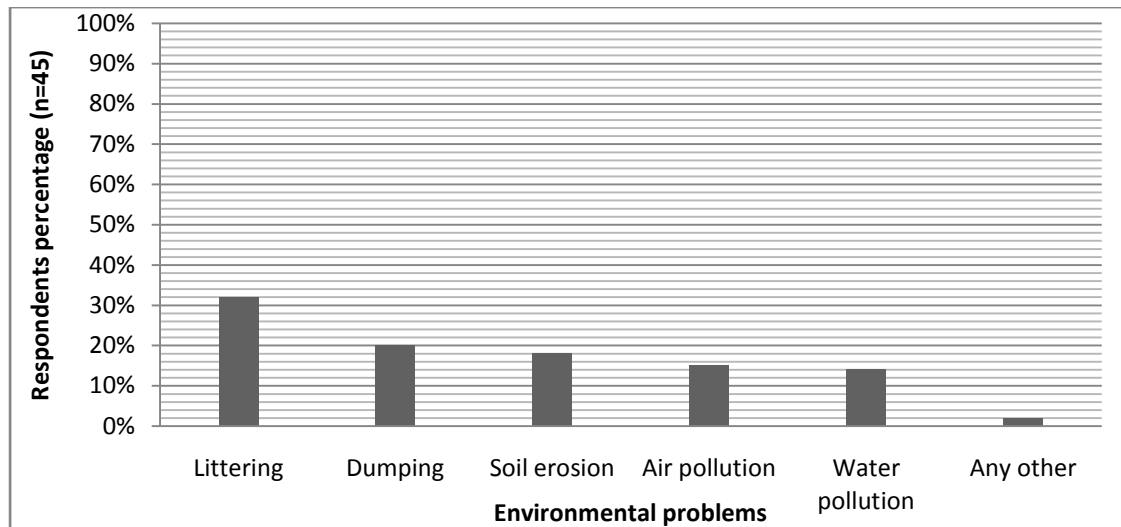


Figure 4.19 Environmental problems within the school

Educators observe a number of environmental problems within the school premises as reflected in Figure 4.19. Out of the 45 educators 32% observe littering, 20% dumping, air pollution stands at 15%, soil erosion at 18%, water pollution stands at 18% and 1% indicated that there are other environmental problems.

4.5 COMPARISONS OF THE THREE SETS OF RESPONDENTS

The three sets of data collected from learners, educators and community members are compared using graphs. On one hand the data reflect more or less the same findings but in other instances it shows extreme differences as presented below.

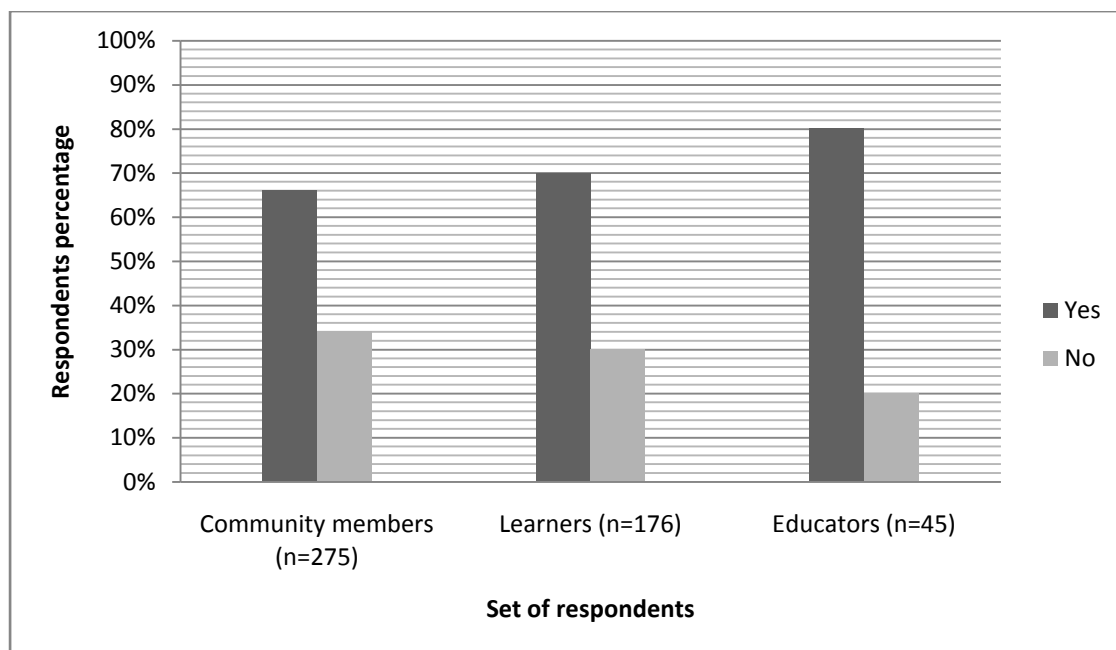


Figure 4.20 Comparison in terms of knowledge of environmental issues

The three sets of respondents are compared in Figure 4.20 as far as their knowledge of environmental issues is concerned. The comparison indicates that 70% of learners have certain knowledge of environmental issues while educators stand at 82%. The percentage of community members that are fortunate to have access to such information is only 66%.

A high number of traditional leaders and community members have no environmental knowledge, 34% of them are uninformed about such issues. Whereas, much lower numbers of both learners and educators do not have access to environmental knowledge. They stand at 30% and 18% respectively.

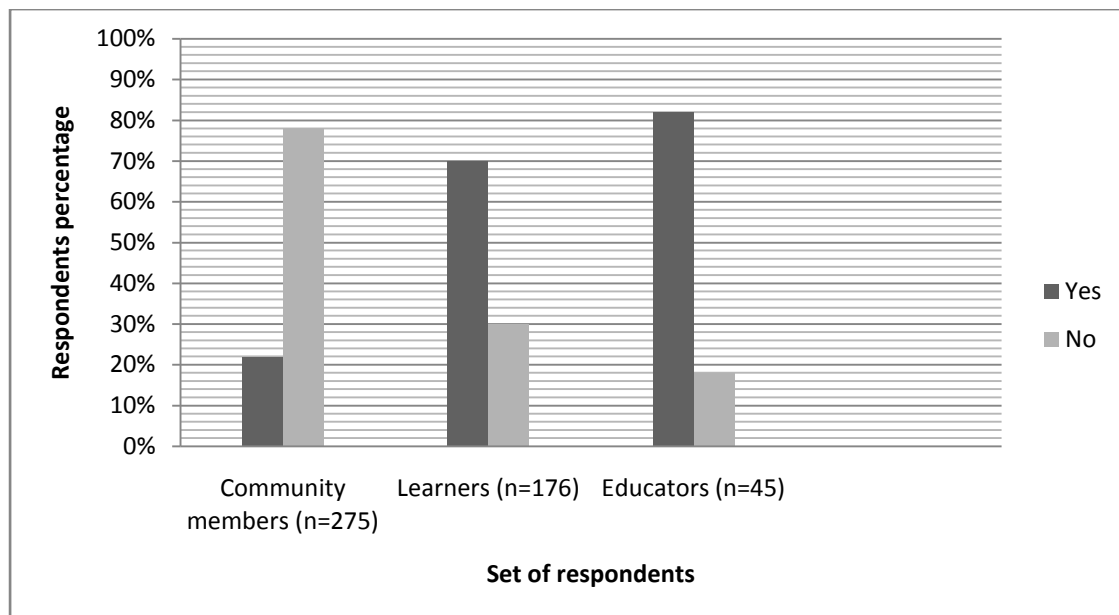


Figure 4.21 Comparison in terms of celebration of environmental dates

Figure 4.21 focuses on the celebration of environmental dates by the different sets of respondents, namely, educators, community members and learners, 82% of educators do celebrate such dates as compared to 22% of community members and 70% of learners.

When compared to learners and educators it seems community members celebrate very few if any environmental dates in their community. A majority of community members (78%) state that they never celebrate any of the environmental dates while only a few educators and learners indicate that they in no way celebrate any environmental date. They stand at 18% and 30% respectively.

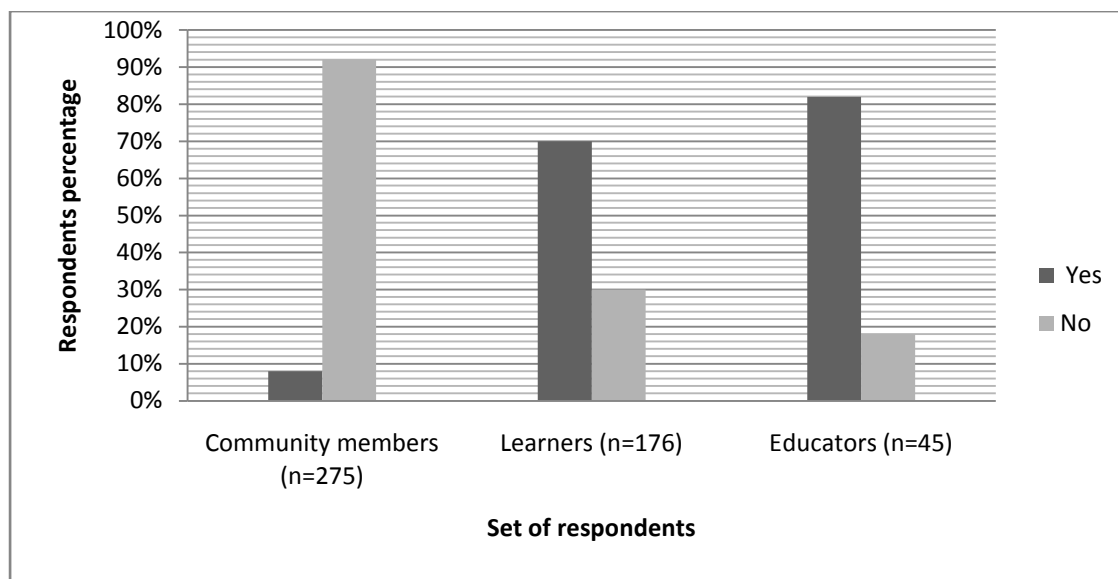


Figure 4.22 Government's visits to schools and community

Figure 4.22 indicates whether government officials do visit schools within the study area and the community at large. Based on the data collected it is apparent that 70% of school learners acknowledge that they are visited by such officials to celebrate certain environmental dates within the schools premises. A meagre 8% of community members attest to the fact that the community is sometimes visited by government with an aim of environmental education and awareness.

Ninety two per cent of the community members decry the lack of visits by government while only 30% of learners and 18% of educators noted failure of both the local municipality and government to visit schools.

4.6 CONCLUSION

The chapter presented all the data collected from the four categories of respondents, namely the sector manager, traditional leadership and community members, learners and educators. The researcher used simple graphs, charts and tables to present the collected data which facilitates interpretation. A comparison was conducted to verify similarities or differences among community members, learners and educators as far as

common questions contained by the questionnaires. Chapter 5 presents findings, the most important of which was the similarities in terms of knowledge of environmental issues by both the educators and the learners and the sharp contrast in the knowledge of environmental issues between learners and the general community members. Recommendations are made such as capacity building for the Tonga Environmental Centre as well as the need for increased financial support for learners who wish to undertake tertiary studies related to the environment. Topics are then suggested for future research projects.

CHAPTER 5

FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

The chapter presents findings and recommendations based on the analysis of the information that was gathered from the four sets of respondents. The findings from the primary data in other instances are supported by secondary data, data collected through literature review. The findings candidly provide a clear picture in terms of evaluating the provision and accessibility of government's environmental programmes and campaigns to the community of Masibekela.

5.2 FINDINGS

Based on the information from the sector manager of the Tonga Environmental Centre, the centre coordinates the celebration of environmental programmes, campaigns and events within the study area and as such it lives up to expectations. Yet, on the other hand, the centre concedes that environmental problems such as deforestation, air pollution, dumping, littering, soil erosion and water pollution persist. The admission of the existence of these environmental problems is an indication that more still needs to be done by the centre in the provision of environmental programmes, campaigns and events geared towards environmental education and awareness to the general members of the community so that, in turn, the above-mentioned environmental problems can be combated.

The centre has four qualified environmentalists that service about thirty villages that fall under the Nkomazi Local Municipality. Critically looking at the ratio of environmentalists to villages, it is the contention of the researcher that the environmentalists are not sufficient for the number of villages. In

support of the above statement, Figure 4.3 indicates that some of the reasons for the community not celebrating environmental days include the following:

- a. lack of knowledge of environmental days
- b. which can be linked to the fact that generally community members are not visited by the local government
- c. which leads them to the conclusion that no environmentalists are assigned to the community.

Therefore based on these reasons presented in Figure 4.3, it stands to reason that the local government, particularly the Tonga Environmental Centre, is failing the community of Masibekela environmentally.

Most residents within the study area know about a day or some environmental days as indicated in Table 4.3. Initially it must be stated that although 66% of the community members know about these days, they could not say precisely when each of the days is celebrated and what it is all about. Secondly it is clear that those community members who are conversant with environmental days are those mostly below the age of forty. Most of those above forty are completely uninformed. The younger members of the community are those who were fortunate to have acquired a certain level of education either at primary or secondary school. In the past, education for all was not compulsory and could be the reason that many older community members lack environmental awareness. The older community members who did attend school would have done so before the environmental education movement was established.

It must be stated that it is the community elders who are empowered to make decisions that will influence the stewardship of the environment but they are the least environmentally informed. This has a negative impact on short term decision making. However, the environmental education of today's learners will place them in good stead to be better stewards of the environment in the long term.

Of the ten environmental commemorations presented to community members as indicated in Figure 4.1 it is apparent that two environmental issues, namely Arbor Week and climate change as a theme appear to be known by the community members. Therefore, the findings based on these statistics, show that environmental programmes, campaigns and events do not all reach the community successfully. Agyeman et al. (2009) noted that in Russia the level of public participation in environmental campaigns had improved over a period of fifteen years. The article was published in 2009 hence the data is four years old in 2013. It relates that various citizen initiatives, social movements, voluntary associations and groups had emerged. All of these had one common goal or aim: to defend a particular common environmental interest through collaboration. All these structures encouraged citizen participation in environmental matters whereby an individual appreciates working jointly with other individuals, groups or structures. This suggests that it is local issues rather than national environmental dates that generate interest in the environment.

Figure 4.3 explores reasons why community members are not celebrating environmental days. The figure presents a gloomy picture of the role played by the government in the provision of environmental programmes, campaigns and events to the community. Therefore, based on the reasons presented in this figure it is evident that the government is failing the majority of community members environmentally. According to Loubser (2005) environmental education is not usually high on the agenda of the South African government.

It is the researcher's contention that government visits to the community of Masibekela are central to the provision of environmental programmes, campaigns and events. When viewing the data presented in Figure 4.4 it is not puzzling that almost all the environmental days are unknown to the community members as indicated in Figure 4.1. The blame for community ignorance is placed squarely on the government and is supported by reasons as furnished in Figure 4.3. The findings that 92% of community members

argue that they are unaware of visits by the government bares testimony to the failures of government to provide environmental information geared towards environmental education and awareness. Coyle (2005) reveals that Americans love to hate or at least mistrust the government. But when it comes to environmental protection, they see the government as playing an important role. A majority of these Americans also think that more funding should be shifted to environmental programmes.

The community of Masibekela is confronted by a number of environmental problems to which respondents gave testimony. Figure 4.5 indicates that 98% of community members witness various environmental problems in the village. Supported by Figure 4.6, it is elucidating that environmental problems such as air pollution, deforestation, dumping, littering, soil erosion and water pollution were observed by more than 50% of the respondents. This might be regarded as an indication of the existence of environmental crises in the area.

Dumping and littering remain the most common environmental problems within the study area. Indiscriminate dumping has very bad impacts on the environment because:

- a. dumping makes the community look very unattractive and this creates a lack of pride in the neighbourhood and can possibly decrease the value of property
- b. dumping is extremely dangerous health wise for the community particularly the vulnerable such as young children
- c. dumping creates habitats for unwanted guests in the community such as rats, snakes and spiders and breeding grounds for insects like flies and mosquitoes which spread diseases.

On the other hand, littering has serious negative consequences to the natural environment. Littering harms the environment in the following ways:

- a. the litter can start a fire especially glass and plastics. These are uncontrolled fires started by anthropogenic influences, and therefore are not natural

- b. litter can kill animals (food scraps can upset their diets) and animals are part of the natural environment
- c. litter reaching the oceans such as plastics can suffocate animals and cause other problems (through ingestion)
- d. many litter items contain contaminants that leach into the environment (these create toxins that can pollute waterways, plants and soils)
- e. some litter is completely contaminant (such as batteries which contain poisons and toxins which are lethal)
- f. in waterways the litter may alter flow paths (hydrologic regimes), especially if litter accumulates and alters the course of a waterway, or the buildup creates a barrier to the water
- g. certain litter items can increase diseases and vermin populations, especially where stagnant water can sit in vessels (such as tins where mosquitoes can breed).

All of these are reasons why the dumping of rubbish and littering need to stop because both have serious consequences not only for the environment, but for human beings too.

In line with evidence put forward by the community members and the photographs taken within the study area (Figure 4.7), first and foremost, it is apparent that the community within the study area is confronted with an unpleasant state of environmental degradation. Second, the government is failing in educating the community environmentally or providing environmental programmes with an aim of combating these environmental problems prevalent in the village.

Although almost all forms of media are available within the study area and about 55% of respondents concur that there are dedicated TV and radio environmental programmes as indicated in Table 4.4 and Figure 4.9 respectively, however 83% of such programmes remain inaccessible to them. This suggests that all the forms of media investigated are not doing enough to disseminate environmental information to the majority of community

members.

The UNEP (2011) report proposes some strategies for environmental education and awareness and South Africa is a member of the UN. In terms of the report, the print, broadcast and internet media can be powerful allies in educating the public on environmental matters. In order to perform this role effectively, it is often necessary for the government to work with the media (and sometimes to educate the media). This can be done informally through regular briefings and information centres.

The UNEP (2011) report further indicates that some American states have found that educating the media can be quite effective in building capacity to report on environmental matters. A case study from Bulgaria (UNEP:2007) provides an example of how the government has worked closely with the mass media to build its environmental reporting capacity through regular press conferences and large public awareness campaigns.

Ninety five percent of learners learn about environmental matters at school as indicated in Figure 4.10 but, on the other hand, 54% of the learners argue that there is no subject that deals exclusively with environmental studies as indicated in Figure 4.11. Figure 4.16 indicates that 76% of educators condemn the unavailability of a subject that focuses solely on environmental issues. Based on this data collected from both the learners and educators, it is obvious that the government, particularly the Departments of Environmental Affairs and Education, are failing to prioritize environmental issues given the fact that there is still no subject dedicated to address environmental issues.

However, it is the researcher's argument that although there is no stand-alone subject at schools, but a glance at numerous subjects presents a positive picture in terms of strides made by the Department of Education with regard to the integration of the concept of environment into several learning areas up to Grade 9 (DoE:2002).

The Department of Education's website contains very important information, (<https://www.education.gov.za/Curriculum/CurriculumStatements/FurtherEducationandTraining/NCSSubjectStatements/tabid/246/Default.aspx>, accessed 23 April 2013). With the introduction of the National Curriculum Statement (NCS) for Further Education and Training in 2006, a considerable number of learning areas cover a wide range of topical environmental issues, for example in Geography (DoE:2003), there are dedicated sections which focus on humans and their interaction with the environment, the impact of climate and climate change on Africa's environment and people – deserts, droughts, floods and rising sea levels, the effect of development on the environment and effects of soil erosion on people and the environment.

Agricultural Sciences aim to develop the awareness of learners regarding the management and care of the environment and natural resources while learners studying Life Sciences are expected to develop an understanding of the ways in which humans have impacted negatively on the environment and organisms living in it. It is also in Life Sciences that an awareness of what it means to be a responsible citizen in terms of the environment is developed and how the life-style choices that they make impact on the environment. In Tourism, special attention is paid to the following:

- a. good environmental practices
- b. environmental impact of tourism businesses on the natural environment
- c. the concept of responsible tourist behaviour towards the environment
- d. negative impact of tourism on environment and host community
- e. rules for tourist behaviour in the natural environment
- f. environmental practices such as litter control, conservation of energy, water and other scarce resources.

These environmental themes have been retained during the latest round of education reform heralded by the introduction of the Curriculum and Assessment Policy Statement (CAPS) (DBE, 2011) which is currently being implemented.

More than twenty years ago, Irwin (1991) proposed close co-operation among the Department of Education, National Parks Board, teacher training institutions and schools. Such co-operation can assist in promoting environmental programmes in South Africa. He maintained that the introduction of environmental studies at school at an early stage of education could prove to be the right step in the right direction. This would help learners to be environmentally conscious and to discover the symptoms and real causes of environmental problems.

Figure 4.14 shows that 69% of learners concur that government officials visited schools to promote environmental education and awareness. This suggests that almost 70% of learners are celebrating some of the environmental programmes, campaigns and events within the school premises. Further interactions with the learners indicated that learners expect more when it comes to environmental knowledge as evidenced by the enthusiasm they expressed. Therefore, based on these findings, it suggests that the government is catering for learners environmentally.

Learners acquire most of their environmental knowledge at schools (29%), followed by TV (21%) as well as on radio (19%) as reflected in Figure 4.15. Newspapers, magazines and internet remain less effective in promoting environmental knowledge and education. The findings suggest that learners still don't have enough access to newspapers, magazines and internet so that they can acquire environmental information satisfactorily.

A number of educators know and celebrate some of the environmental days as indicated in Figure 4.17. A few of the educators (18%) do not know about environmental days as compared to 82% who are informed. Therefore, based on the information contained by the figure it stands to reason that the government is succeeding in the provision of environmental information to educators, learners and schools at large.

Figure 4.18 presents some of the views expressed by educators in terms of coming up with some strategies geared towards meaningful promotion of environmental programmes, campaigns and events to schools. Among other strategies the educators suggest the following:

- a. environmental studies should be incorporated into school curriculum
- b. intensification of provision of environmental campaigns
- c. the government ought to provide relevant learning materials such as books, pamphlets and posters to schools

Ham (1992) states that the government of Trinidad and Tobago introduced a number of environmental programmes in schools aimed at combating environmental problems. Schools and youth groups were aggressively targeted with environmental education by the environmental caretakers. Success was recorded through one of the most successful programmes known as the annual speaking competition on environmental topics. The public speaking competition aims to educate teenagers and the public at large about the importance of the environment and the need to prevent further degradation.

Environmental problems such as littering, dumping, soil erosion, air and water pollution are witnessed by educators within the school premises as indicated in Figure 4.19. Although educators are conscious of environmental days within the schools as confirmed by Figure 4.17, environmental problems remain prevalent in the schools. Therefore, based on these findings it authenticates the fact that environmental programmes, campaigns, events and information provided by government to the schools do not adequately assist the schools at large to combat environmental problems.

Data comparing the three sets of respondents in terms of knowledge of environmental issues gives a divergent trend as indicated in Figure 4.20. Most community members (34%) within the study area are uninformed environmentally as compared to learners (30%) and educators (18%). Most learners indicated love for and enthusiasm about environmental issues to

such an extent that more than 70% expressed a desire to learn more about environmental matters. In Figure 4.16 76% of educators indicated that there is no subject specifically on environmental issues, yet, out of the three strategies aimed at delivering environmental programmes, 47% of educators felt that the inclusion of environmental studies in the school curriculum is the way to go.

Therefore, based on these findings it is obvious that the community of Masibekela is not well catered for in terms of provision of environmental programmes, campaigns, events and information geared towards environmental education and awareness. On the other hand, the three sets of respondents felt that proper provision of environmental programmes and related information can be of value not only to them but even to their environment.

The three sets of respondents, namely, community members, learners and educators do not celebrate environmental days equally as indicated in Figure 4.21. Looking in terms of celebration of environmental days among the three sets of respondents, it is evident that only 22% of community members celebrate these days as compared to 82% and 70% of educators and learners respectively. Therefore, these findings give a clear picture that community members are not catered for environmentally as compared to both learners and educators. Those few environmental programmes and campaigns provided by the government are biased towards schools and are leaving a large majority of the community members uninformed environmentally.

Figure 4.22 gives two contrasting pictures about government's visits to schools and the community. The comparison between the two sets of respondents indicates that 70% of the learners are aware of visits by government officials as compared to 8% of community members who attest to the visits by government within the study area. So therefore, based on these findings, it is clear that the community of Masibekela is neglected environmentally by the government.

5.3 RECOMMENDATIONS

The recommendations offered are derived from the primary sets of data, gathered from the sector manager, community members, learners as well as educators.

- a. Tonga Environmental Centre should be equipped in terms of human resources so that it will be in a position to promote environmental programmes, campaigns and events meaningfully and target the local environmental problems directly.
- b. The Department of Environmental Affairs needs to assist the Tonga Environmental Centre in planning and implementing environmental capacity building programmes for the general community members in the study area and other relevant stakeholders particularly in the informal sector.
- c. Government needs to prioritize investing in more young matriculants by offering opportunities and bursaries to become qualified environmentalists to service not only Masibekela village but all the villages under the Nkomazi Local Municipality and throughout the country.
- d. Government must direct more funding for environmental programmes, campaigns and events for rural communities, for instance, public speaking competitions.
- e. The Department of Environmental Affairs, in collaboration with the Department of Basic Education, should consider the inclusion into school the curriculum of a compulsory stand-alone subject on environment. (The introduction of the CAPS curriculum was still in progress during the research so its impact could not be assessed).
- f. The Department of Environmental Affairs must coordinate more coverage of environmental issues in all media and social networks.
- g. Collaboration between government and NGOs should be encouraged and intensified.

5.4 CONCLUSION

The chapter brought an understanding in terms of provision of environmental programmes, campaigns, events and information to the community of Masibekela. In a way, the Tonga Environmental Centre is attempting to provide environmental education and awareness through cascading environmental programmes in the study area, although with a minimum impact as evidenced by the low numbers of community members that are informed environmentally. Environmental education and awareness remains skewed towards schools and the general community is left unattended environmentally.

All four sets of respondents concur that a number of environmental problems are prevalent in the area and remain a phenomenon that is not adequately addressed. The existence of these environmental problems is to a large extent attributed to government's failure in promoting environmental education and awareness to the majority of community members within the study area.

It is an obvious concern of management that the Tonga Environmental centre in particular needs to have more qualified environmentalists and there is also an urgent need for the centre to intensify its provision of environmental programmes, campaigns and events so that the environmental problems in the study area can be combated.

The conclusion warrants suggestion of the following topics for further research:

- a. A comparative study: are urban areas/dwellers environmentally informed or better catered for in relation to rural areas?
- b. Is the number of illiterate community members directly proportional to environmental problems in any given area?
- c. Are government's environmental programmes the best tool in addressing environmental problems?

- d. A long term study of the impact of the CAPS curriculum on levels of environmental awareness and responsibility.

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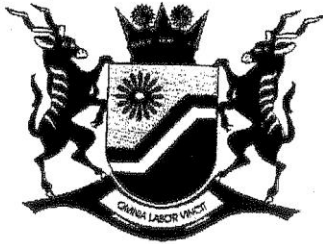
PERSONAL COMMUNICATION REFERENCE

Dr de Lange, A. Director responsible for Directorate of Environmental Education and Awareness in Mpumalanga Provincial Department of Economic Development, Environment and Tourism: meeting held in Nelspruit 15 July 2011.

REFERENCE

National Freeway; National Route .....			..... International Boundary and Beacon
Arterial Route .....			..... Provincial Boundary
Main Road .....			..... Protected Area
Secondary Road; Bench Mark .....			..... Perennial River
Other Road; Bridge .....			..... Perennial Water
Track and Hiking Trail .....			..... Non-perennial River
Railway; Station or Siding .....			..... Non-perennial Water
Other Railway; Tunnel .....			..... Dry Water Course
Embankment; Cutting .....			..... Dry Pan
Power Line .....			..... Marsh and Vlei
Built-up Area (High, Low Density) .....			..... Pipeline (above ground)
Buildings; Ruin .....			..... Water Tower; Reservoir; Water Point
Post Office; Police Station; Store .....			..... Coastal Rocks
Place of Worship; School; Hotel .....			..... Prominent Rock Outcrop
Fence; Wall .....			..... Erosion; Sand
Windpump; Monument .....			..... Woodland
Communication Tower .....			..... Cultivated Land
Mine Dump; Excavation .....			..... Orchard or Vineyard
Trigonometrical Station; Marine Beacon ...			..... Recreation Ground
Lighthouse and Marine Light .....			..... Row of Trees
Cemetery; Grave .....			..... Original Farms

CONTOUR INTERVAL 20 METRES



Appendix A2

MPUMALANGA

PROVINCE
PROVINSIE
XIFUNDZA
PROFINSI
SIFUNDZA

**LUBOMBO CIRCUIT OFFICE
DEPARTMENT OF EDUCATION
DEPARTEMENT VAN ONDERWYS**

P.O. BOX 1142
KWALUGEDLANE
1341
TEL: (013) 782 0073
FAX: (013) 782 0260

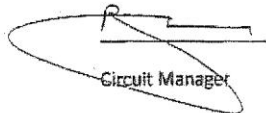
Enq.: Mr. Ngcane BR
Tel: 013 172 4664

To: Mr. Nkaianga,SD

Date: 16-11-2011

SUBJECT: RESPONSE TO A REQUEST TO CONDUCT RESEARCH TO SCHOOLS IN THE CIRCUIT FOR A
MASTER'S DEGREE IN GEOGRAPHY

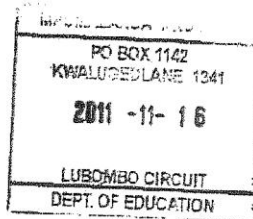
1. The circuit has received your request regarding the above-mentioned subject and in response to your request, the circuit gives you a go ahead with the project on the following conditions:-
 - 1.1 dignity of and respect of all participants is observed
 - 1.2 confidentiality of information collected from both educators and learners, especially information that may humiliate them is also observed
- 2 The circuit looks forward to a good working relationship together


Circuit Manager

Ngcane BR

16/11/2011

Date



Appendix A3.1 (MA in Geography)
Research questionnaire
Sector Manager: Tonga Environmental Centre

<i>Evaluation of provision and accessibility of government's environmental programmes and campaigns to the community of Masibekela, a rural village in Mpumalanga, South Africa, under the Nkomazi Local Municipality</i> Key :Yes (Y)=1 No(N)=2			
Section A: Biographical Information			
Q1	Gender	M	F
Q2	Work experience		
	1-2 years		
	3-4 years		
	5-9 years		
	10 years and longer		
Section B: Information about the operation of the office			
Q3	How many years ago was this centre established?		
Q4	What are the specialised services of the centre?		
Q5	Do you think the Centre lives up to expectations?	Y	N
Q6	Give reasons for your answer		
Q7	Do you have an annual environmental programme?	Y	N
Q8	Specify the nature and frequency of your service to the communities under your jurisdiction		
	Monthly		
	Quarterly		
	Yearly		
Q9	Do you celebrate environmental events with communities?	Y	N
Q10	Which of the following programmes do you celebrate with communities?		
	World Wetlands Day		
	World water Week / National Water Week		
	World Biodiversity		
	World Environmental Week		
	World Arbor Day / National Arbor Week		
	World Ozone Day		

	World Tourism Day		
	World Habitat Day		
	National Marine Day		
	Climate Change		
Any other, specify			
Q11	In celebrating any programme, what is your target group?		
	Learners		
	Churches		
	General community members		
	Others		
	All groups		
Q12	As a Centre are you satisfied with the role you play in the provision of these environmental programmes?	Y	N
Q13	Support your answer		
Q14	Which of these environmental problems does your office witness in the study area? (air pollution, deforestation, dumping, littering, land degradation, water pollution, other:		
Q15	Various programmes intend to combat specific environmental problems. Which of your programmes are geared towards addressing the problems below?		
Environmental Programme	Match	Environmental Problem	
1. World Wetlands Day		A. Air pollution	
2. National Water Week		B. Deforestation	
3. World Biodiversity Week		C. Dumping	
4. World Environmental Week		D. Littering	
5. National Arbor Week		E. Land degradation (erosion)	
6. World Ozone Day		F. Water pollution	
7. World Tourism Day			
8. World Habitat Day			
9. National Marine Day			
10. Climate Change			
Any other. Specify			

Q16	Are you content with the role played by the programmes as matched above in alleviating the relevant environmental problems?	Y	N
Q17	Do you know about other organisations offering environmental programmes, campaigns or training?	Y	N
Name it (them)?			
Q18	Are there any hindrances that deter your office in satisfactorily providing environmental programmes in the communities within your jurisdiction? Explain		
Section C: Employees and their qualifications			
Q19	How many employees work in this Centre?		
Q20	Number of qualified environmentalists		
Q21	Number of unqualified environmentalists		
Q22	Is in-service training provided to employees?	Y	N

Appendix A3.2 (MA in Geography)
Community members & traditional leaders

<i>Evaluation of provision and accessibility of government's environmental programmes and campaigns to the community of Masibekela, a rural village in Mpumalanga, South Africa, under the Nkomazi Local Municipality</i> Key :Yes (Y)=1 No(N)=2			
Section A: Biographical Information			
Q1	Gender	M	F
Q2	Your age in years		
Section B: Provision and participation in environmental events			
Q3	How long have you stayed in this village?		
	1-5 years		
	6-10 years		
	11-15 years		
	16-20 years		
	Longer than 20 years		
Q4	Do you know of any day in the year on which something special about our environment is celebrated?	Y	N
Q5	Choose (using X) which ones you have heard of at some time or another		
	1. World Wetlands Day		
	2. World water Week / National Water Week		
	3. World Biodiversity		
	4. World Environmental Week		
	5. World Arbor Day / National Arbor Week		
	6. World Ozone Day		
	7. World Tourism Day		
	8. World Habitat Day		
	9. National Marine Day		
	10. Climate Change		
	Any other:		
Q6	As a community do you celebrate any of the above days?	Y	N
	If 'yes', which ones: 1 2 3 4 5 6 7 8 9 10 11		
Q7	If "No" why not? Explain		

Q8	Are you sometimes visited by government officials to inform you about environmental programmes?	Y	N
Q9	If "Yes" when last was it?		
	1-4 months back		
	5-8 months back		
	9-12 months back		
	Longer than a year		
Q10	Are you satisfied with the role played by government in the provision of environmental programmes and campaigns?	Y	N
Q11	Give reasons for your answer		
Q12	Do you witness any environmental problems in your area?	Y	N
	If "yes" which ones, choose using (X)		
	Air pollution		
	Deforestation		
	Dumping		
	Littering		
	Soil erosion		
	Water pollution		
	Any other. Specify		
Section C: The role of media in promotion of environmental programmes			
Q13	Which form of media is available in your community?		
	Radio		Magazines
	Newspapers		TV
Q14	Is there any dedicated TV or radio programme on environmental issues?	Y	N
Q15	If "Yes" how often are they offered?		
	Daily		Weekly
	Monthly		Quarterly
Q16	Giving your own opinion, do you think such programme (s) reach the majority of community members	Y	N

Q17	If “ No ” what do you think must be done by the media to promote environmental programmes and information?		
Section D: Role of the community in promotion of environmental programmes			
Q18	Do you know about local non-government organisations offering environmental programmes, campaigns or training?	Y	N
Can you name it (them) and say what they do?			
Q19	Are you, or would you like to be, a member of an environmental organisation?	Y	N
Q20	Would you be prepared to start and/or run an environmental action group?	Y	N
Q21	Any general comment regarding the questions asked in the questionnaire		

Appendix A3.3 (MA in Geography) Learners

<i>Evaluation of the Provision and Accessibility of Government's Environmental Programmes and Campaigns to the village of Masibekela</i>			
<i>Key :Yes (Y)=1 No(N)=2</i>			
Section A. Biographical Data			
Q1	What is your gender?	M	F
Q2	Your age in years	years	
Q3	You are in Grade...		
Section B. School Curriculum			
Q4	Have you ever learnt anything about the environment?	Y	N
Q5	In which subjects? Tick		
	Siswati	Technology	Mathematics
	English	Geography	Geography
	Afrikaans	Physical Science	Agricultural Science
	Life orientation	Life Sciences	Accounting
	Tourism	Information Technology	Business Economics
		Tourism	Economics
	Any other subject? Please specify		
Q6	What have you learned about the environment?		
Q7	When last did you learn about it? Choose		
	1-4 months back		
	5-8 months back		
	9-12 months back		
	Longer than a year ago		
Q8	Apart from the Subjects above do you have any Subject specifically on "Environmental Studies"?	Y	N
Q9	Do you have a list/calendar of environmental dates for the year?	Y	N
Q10	Have you ever celebrated any environmental event within the school premises?	Y	N
Q11	Are you sometimes visited at school by people/officials to inform you about environmental matters?	Y	N

Q12	If "yes" who are those people----Choose using (x)		
	Government officials		
	Ordinary people from your community		
	Other		
Section C. The role of the Department of Education			
Q13	Would you have liked to have learnt more about the environment at school?	Y	N
Q14	Support your answer		
Section D. General Environmental Knowledge			
Q15	What would you do to celebrate on these special days?		
	World Wetlands Day		
	World water Week / National Water Week		
	World Biodiversity		
	World Environmental Week		
	World Arbor Day / National Arbor Week		
	World Ozone Day		
	World Tourism Day		
	World Habitat Day		
	National Marine Day		
	Climate Change		
Q16	How do you hear about the environment?		
	School		
	Radio		
	Newspapers		
	Magazines		
	TV		
	Internet		

Q17	What can be done by government to provide environmental programmes?		
Q18	Write about anything you like in your environment	Write about anything that happens and worries you in your environment	
Q19	Would you be prepared to join/run an environmental action group at school?	Y	N
What problem would you tackle and how?			

**Appendix A3.4 (MA in Geography)
Educators**

<i>Evaluation of provision and accessibility of government's environmental programmes and campaigns to the community of Masibekela, a rural village in Mpumalanga, South Africa, under the Nkomazi Local Municipality</i>			
Key :Yes (Y)=1 No (N)=2			
Section A: Biographical Information			
Q1	Gender	M	F
Q2	Work experience		
	1-2 years		
	3-4 years		
	5-9 years		
	10 years and longer		
Section B: Qualifications & School Curriculum			
Q3	What is your highest qualification?		
	Standard 10/Grade 12		
	Diploma		
	Degree		
	Postgraduate degree		
Q4	Which subjects are you teaching?		
	Siswati	Technology	Mathematics
	English	Geography	Geography
	Afrikaans	Physical Science	Agricultural Science
	Life orientation	Life Sciences	Accounting
	Tourism	Information Technology	Business Economics
		Tourism	Economics
	Any other subject? Please specify		
Q5	Is there any subject specifically on environmental issues?	Y	N
Q6	Do you see any need for inclusion of Environmental Studies in the school curriculum?	Y	N

Section C: Environmental Background

Q7	Do you know any environmental dates?	Y	N
Q8	If "yes" Choose and say what would you do to celebrate on these special days		
	World Wetlands Day		
	World water Week / National Water Week		
	World Biodiversity		
	World Environmental Week		
	World Arbor Day / National Arbor Week		
	World Ozone Day		
	World Tourism Day		
	World Habitat Day		
	National Marine Day		
	Climate change		
	Any other day		
Q9	Do you celebrate any of these days either here in your school or in your community?	Y	N
Q10	What do you think must be done to ensure that environmental programmes are cascaded to schools?		
Q11	Which of these environmental problems do you witness within the school?		
	Air pollution		
	Dumping		
	Littering		
	Soil erosion		
	Water pollution		
	Any other. Specify		

Q12	Do you know about other organisations (apart from government) offering environmental programmes, campaigns or training?	Y	N
Can you name it (them) and say what they do?			
Are you, or would you like to be, a member of an environmental organisation?			
Would you be prepared to start and/or run an environmental action group?			
Q13	Any general comment regarding the questions in the questionnaire?		