

CHAPTER 1

RESEARCH DESIGN

1.1 RATIONALE FOR STUDY OF THE KZNDEC EE CENTRES

The purpose of this study is to evaluate the effectiveness of the three (3) extant Environmental Education Centres of the KwaZulu-Natal Department of Education and Culture (KZNDEC) as contributors to education and to environmental learning in KwaZulu-Natal. In the process, it is an exploratory response as to how better the Centres can answer the call of the Reconstruction and Development Programme to “empower all communities to act on environmental issues” (African National Congress – ANC 1994:40).

1.2 THE ENVIRONMENTAL EDUCATION CENTRES OF THE NATAL EDUCATION DEPARTMENT AND THE KZNDEC

In 1974 the former Natal Education Department (NED) had six (6) Environmental Education (EE) centres (pers. comm., P. van den Berg 21 July 2003; J. Keegan interview 4 December 2002), two (2) of which no longer operate. They were solely for day teaching, with Departmental educators offering lessons *in situ*:

- Botanical Gardens Environmental Education Centre, in Pietermaritzburg, primarily for vegetation studies (Ibid; and pers. comm., D. Thompson, 20 August 2003); and
- Happy Valley Environmental Education Centre, on the Bluff in Durban, principally for coastal forest and wetland studies (Van den Berg 2003; Keegan 2003).

The other four (4) centres offer/ed overnight accommodation for learner groups:

- the Estcourt Environmental Education Centre was used chiefly for studies in and around the Drakensberg area. On the emigration of its Head in 1996, it was closed down, and, being in a period when the KZNDEC EE Unit was without a leader (its Co-ordinator had taken a “voluntary severance package”) there was no-one to motivate for a replacement educator to run the Centre and its programmes (Keegan 2003);
- the Dundee Environmental Education Centre, whose studies focus on the KwaZulu-Natal “Battlefields” (Head C interview, 2 March 2003). It was threatened with closure during 2003 to provide office space for the new KZNDEC District of Umzinyathi (KZNDEC 2003a), but it continued after intervention of the Premier of KwaZulu-Natal (Mtshali 2003; see Chapter 3 Section 3.2.2);
- the Durban Environmental Education Centre, used in the main for lessons on the harbour and the industries of Durban, continues apace (Ibid); and
- the Eshowe Environmental Education Centre, whose focus is programmes on coastal industries and rocky shores, also continues.

1.3 KZNDEC ENVIRONMENTAL EDUCATION CENTRES AND “FIELD TRIPS”

Over the years, no definitive educational role has been formulated by the KZNDEC for the operations of its Environmental Education Centres (Head C 2003). In the main, they have served as agencies (with accommodation) for “field trips [for] groups of pupils” (Van den Berg in Opie 1986:14). “Show and tell” excursions conducted for schools were seen to have

“great value” as they were “aimed at environmental awareness” (Ibid; O’Donoghue and Janse van Rensburg 1995:5).

Each Centre’s Head (and every other appointed environmental educator) was a trained and experienced educator (cf. Section 3.5.1). Although they had varied interests in environmental matters (Van den Berg 2003), many were oriented towards the biophysical aspects, being specialists in Biology and Geography (Section 3.5.1; cf. interview with Centre Head A, 2 March 2003; Keegan 2003). This background affected their teaching programmes.

Most concentrated on “nature experiences” and “information about conservation problems” (Clacherty 1995:20; Taylor 2003a:70), because “teaching ecology and environmental education were seen as the same thing” (O’Donoghue and Janse van Rensburg 1995:4). By bombarding their school groups with “conservation information,” or by simply arranging experiences in nature so that participants “could start thinking holistic thoughts,” they attempted to raise in their learners awareness about “nature at risk” (Ibid; van den Berg 1986:14; Taylor 2003a:70).

Many young people developed a profound environmental consciousness, but some environmental educators were increasingly uncertain whether the courses were “having the desired [life-changing] effect” (Ibid). In recent years, the perspectives of the KZNDEC “EE Unit” have been broadened from the conservation of natural resources to include issues of sustainability and social justice. This has encouraged them to work with other educators towards incorporating environmental concerns, such as rural development and sustainable living processes, into schools’ curricula (cf. Joubert 1994:22; ANC 1994:40; Clacherty 1995:20; cf. Preamble to National Environmental Management Act No. 107 of 1998).

1.4 KZNDEC ENVIRONMENTAL EDUCATORS ACQUIRE ADDITIONAL ROLES

As the need arose, the KZNDEC environmental educators acquired additional functions within the education community. They became working allies with others in the design and revision of the Curriculum (Müller 1998:1). They helped in providing resource-based learning for educators and they promoted “active learning” skills (O’Donoghue and Janse van Rensburg 1995:13; cf. Chapter 4 Section 4.4.2). In co-operation with the “20-20” Programme of the Department of Water Affairs and Forestry, many materials appropriate for OBE that include environmental education have been produced (DWAF 2000:1; cf. KZNDEC Environmental Education Unit, 2000:13).

Indeed, the work of the KZNDEC EE Unit has been best achieved as it has “networked” with others (Burge, Gaisford and Keegan 2002:1). It has sought to develop partnerships with all other EE service providers in KwaZulu-Natal (and in the rest of South Africa, where this is beneficial), to “take action towards sustainable living” (O’Donoghue and Janse van Rensburg, 1995:11). In 1996, the Unit helped form the KwaZulu-Natal Environmental Education Curriculum Forum (the KZN EECF; EECF 1996:1; cf. Section 4.4.2).

The major contribution of the EECF has been the devising, the organisation of funding and the extensive workshopping of the Schools' Environmental Policy and Management Plan (SEP&MP) throughout much of KwaZulu-Natal (Taylor, O’Donoghue and Wagiet 2002:1; interview with J. Taylor, 31 October 2002; cf. Section 2.7). It has provided a socially critical framework to “empower learner action for the environment” (O’Donoghue and Janse van Rensburg 1995:3). It has also helped the professional development of many educators and, through these processes, the improvement of environmental learning in schools (cf. Sguazzin 2002:2).

1.5 THE PHILOSOPHICAL BACKGROUND TO ENVIRONMENTAL EDUCATION IN THE KZNDEC

The ever-increasing environmental degradation around the world is cause for concern for most nations, and the “many interacting dimensions” of the environment that “shape our surroundings” (O’Donoghue 2000:3) are “losing [their] ability to nurture the full diversity of life and the economies of nations” (Linden 2000:18; DEAT 1998:3; DEAT 2001:1; SADC-REEP 2002; Clinton 2000:25).

“Earth’s pain [has become] humanity’s pain” (Linden 2000:18) as biophysical concerns such as land degradation, climate change, water scarcity, loss of biodiversity and pollution impact upon such social issues as poverty, poor health, a burgeoning population and exacerbating urbanisation; which are compounded by such challenges as armed conflict, political ill-will, and the “discouragement, erosion and outlawing” of many traditional customs and practices of land management by “colonial and post-colonial governments” (SADC REEP 2002:6-10; O’Donoghue 2000:3; O’Donoghue 2001:5; Delta 2001:4; Janse van Rensburg, 2000:5; Taylor 2002; UNESCO 2003).

The ever-increasing awareness of these environmental crises has spawned a range of proposed solutions (Wagiet 2001 a:7; Delta 2001:1). Environmental education processes (Wals & van der Leij 1997 *in* le Roux 1997:48) are closely associated with them (O’Donoghue and Janse van Rensburg 1995:11; UNESCO 1997:38; Delta 2001:1; Ballance and King 1999:28). The “indoctrination procedures,” alleged to have been practised at certain South African “field centres” prior to 1994 are an insufficient response (Van den Berg 2003; cf. Section 1.2; Joubert *et al*, 1994:31; and Hanekom and Liebenberg, 1994:30).

The understanding of “environmental education” underlying this research is encapsulated in Janse van Rensburg and Taylor’s description of “planned processes which enable participants to explore the environment, to investigate recognised concerns and to take action to make the world a better place for all living things” (1993: 6).

The KZNDEC environmental educators have pledged themselves and their work to play a part in an “active learning” solution (Clacherty 1995:15; Taylor 2003b:73). Their Vision pledges them to “encourage Environmental Education processes that develop responsible lifestyles in harmony with the environment as a whole on the part of all the learners, students and educators of KwaZulu-Natal, and make them aware of the fact that an acceptable quality of life is dependent on their judicious and sustainable use of the environment” (KZNDEC EE Unit 1999:1).

1.6 A STATEMENT OF THE PROBLEM

1.6.1 An Historical Background to KZNDEC Environmental Education Centres

In the early 1970’s the Natal Education Department (NED) appointed its first “Field Studies officer,” a former Edgewood Teachers’ Training College geography lecturer. Mr R. van Os compiled a “field guide” for Durban and escorted schools’ groups on Biology-based excursions in the Durban and Natal Midlands area (Keegan 2002; Van den Berg 2003). Various other teachers were seconded, over the years, to the “Field Studies Section” to serve as “officers.”

One such, Mr J. Keegan (currently the Head of Durban Environmental Education Centre), a first-year Biology teacher, was appointed in 1974. He established the Happy Valley Centre

in a laboratory in the then Andries Pretorius School, and learners conducted studies in the coastal forest, grasslands and wetlands on the Bluff (Keegan 2002; Haw 1995:81).

Given the ecological orientation of many early practitioners (Van den Berg in Opie 1986:14; Clacherty 1995:20), environmental studies were often confined to “conservation education.” By means of “immersion and acclimatisation” in natural experiences, it was intended that learners’ attitudes and behaviours would be modified (O’Donoghue 1986:18; O’Donoghue & Janse van Rensburg 1995:4-5; Taylor 2003:70; DEAT 2001:7). “It was a case of getting the kids out and making them aware of the environment, and of the value of actually doing outdoor education... The conservation aspect always came into it...” (Keegan 2002).

In 1981, the name of the “Field Studies” unit was changed to the “Environmental Education Section” (Van den Berg 2003). This, it was felt, better reflected the increasing practice of “officers” accompanying school groups on camping expeditions into natural areas (Ibid). Disused school hostels, such as those of Dundee’s Holy Rosary Convent, the Babanango Primary School and the Uplands Primary School, began to be used as self-catering hostels for “field trips” (Haw 1995:81; van den Berg 2003).

In 1985, Mr Keegan was appointed to start the Natal Education Department’s first overnight “Environmental Education Centre,” in the old Durban Preparatory High School hostel, Morningside, Durban (Van den Berg 2003; Keegan 2002). Education groups received full accommodation and had Mr Keegan to escort them to places of environmental and educational interest in and around the Durban area. Most “informal” and “non-formal environmental education” like this in South Africa was driven by non-governmental organizations such as the Wildlife Society (now the Wildlife and Environment Society of South Africa, or WESSA; DEAT 2001:7, Taylor 2003b:70).

Although environmental activities were never part of the formal school curriculum (of what is now known as the GET and FET phases), educators were encouraged to introduce environmental knowledge and skills into their learning situations (Van den Berg 2003; Keegan 2002). These days, environmental educators attempt to focus on interdisciplinary, problem-solving interactions with the environment in their teaching (O'Donoghue 2000:5), "[making] meanings" for the sake of the environment (Wagiet 2001 a:19). They aim to "create environmentally literate and active citizens, and [to] ensure that all South Africans, present and future, enjoy a decent [sic] quality of life through the sustainable use resources" (White Paper on Education and Training 1995; Gore in Bowers 1995:5; Fien 2002:5).

1.6.2 The problem

The problem that is investigated in this study is twofold. Some have called for the KZNDEC Centres to be disbanded, on the basis that methodologically the teaching programmes propagated by the Centres are not sufficiently effective in the socio-economic milieu of modern KwaZulu-Natal (Pather 2003:4). To examine this concern, the enquiry explores whether environmental teaching in and through the Centres is empowering visiting learners, students and educators – especially those from within their communities – to "talk and think their way ... to solutions through environmental learning in, about and for a better world (Wagiet 2001a:17). The first part of the problem, therefore, lies in evaluating the programmes offered in and through the KZNDEC Environmental Education Centres as instruments of promoting environmental education (in its widest sense).

Based on this, the second part to the problem investigates an alternative proposal, of if, and how, the Centres may be re-formed so that they can make more informed and relevant contributions to education (as a whole) in the process of improving their total surroundings (cf. O'Donoghue and Janse van Rensburg 1995:10). The options are evolution or extinction.

1.6.3 The Aim of the Research

The aim may be summed up as: “How effective are the KZNDEC Environmental Education Centres in promoting education for the environment in their communities, and how may their effectiveness be improved?”

1.7 THE SCOPE OF RESEARCH

The researcher will review the traditional role of KZNDEC Environmental Education Centres from their inception; and will appraise the ways in which they have contributed to curriculum enhancement in the past; and, finally, to evaluate how they are evolving to serve the educational community. The period under examination will be from 1974 until the present (2003).

1.8 RESEARCH STRATEGIES AND METHODS

Case study research will be incorporated into a global and individual study of the three (3) Centres. The researcher will also focus on attempts at an example Centre to improve its effectiveness in environmental education. Case study research is (by definition, and of necessity) naturalistic in approach (Thomas 1989/90:4; Schultze 1991/2:22); therefore, the investigation is empirical-analytical and qualitative, a “study of events within their real-life contexts” (Yin 1984:67). The researcher aims to “uncover fundamental aspects” of environmental education programmes through the “representation of diverse view points and interests, and the rich information thus gained (Thomas 1989/1990:4). It is aimed that the findings generated will provide a base from which a renewed focus on the roles of the Centres can be based.

A range of techniques and procedures will be employed: site visits and observation, interviews, field note-taking, structured questionnaires, document collection and analysis, interactive seminars and workshops, formal meetings, and “the negotiation of interpretation with participants” (Fien and Rawling 1996:15). Pilot testing of certain instruments will be at Treasure Beach Environmental Education Centre (WESSA), which has run in parallel to the KZNDEC centres for many years (pers. comm. L. Britz, 30 November 2002) and with select educators from the KZNDEC Nquthu Circuit.

Research techniques will include:

1.8.1 A scoping exercise and site visitation to the three (3) extant KZNDEC Environmental Education Centres to assemble background information to obtain:

- a record of the historical background of each one;
- clarification of their functioning and diversity;
- documentation regarding educational facilities, materials and services currently offered;
- data on current patterns of use and problems being experienced; and
- records to determine “socio-political transformation” in the execution of their programmes.

1.8.2 Structured interviews with the KZNDEC EE Centres’ Heads to determine:

- their professional training and teaching experience;
- their attitudes towards the (holistically defined) environment;
- their educational methodology; and

- their recommendations for sustainable options and continuing service provision at their Centres.

1.8.3 Attempts through a questionnaire and a structured workshop to detail:

- the Centres' Heads' implicit views on environmental learning and social change; and
- their expectations of, and aspirations for, Environmental Education within the formal, non-formal and informal education system of KwaZulu-Natal.

1.8.4 A review and analysis of correspondence and records regarding the involvement of the KZNDEC environmental educators (and, indirectly, their Centres) in assisting educators in formal educational processes.

1.8.5 An analysis and evaluation of documents and information collected thus far from the KZNDEC environmental educators.

1.8.6 An analysis of documents, circumstances and legal opinions relating to the status of Environmental Education Centres within the formal structures of the KwaZulu-Natal Department of Education and Culture.

1.8.7 Focused research through South African law and jurisprudence, Constitutional law and international agreements to which South Africa is bound, rationalising the legal duty of the KZNDEC to provide Environmental Education.

1.8.8 A meeting with stakeholders in KZNDEC environmental education processes, involving environmental educators, educators in mainstream KwaZulu-Natal schools,

- academics from the University of Natal and Rhodes University, environmental educators from WESSA, and SADC-REEP associates to debate the progress made in Environmental Education processes within the formal education system in KwaZulu-Natal and to plot possible advances.
- 1.8.9 A preliminary exploration of solutions to impasses presenting to the Environmental Education Centres of the KZNDEC regarding more effective educational functioning.
- 1.8.10 In the light of, and in preparation for such advances proposed in Sections 1.8.8 and 1.8.9, a review and evaluation of three (3) case studies:
- 1.8.10.1 Dundee EE Centre and its (Environmental Educational) effect on the Wasbank Community;
 - 1.8.10.2 Dundee EE Centre and its pursuance of Schools' Environmental Policy programme
 - 1.8.10.3 Dundee EE Centre and Eco-Schools workshops for educator groups.
- 1.8.11 A structured questionnaire to determine the environmental knowledge and attitudes of a representative sample of educators from rural and urban areas from north-western KwaZulu-Natal.
- 1.8.12 An analysis and evaluation of the results of the survey of educators' knowledge and attitudes.
- 1.8.13 A structured questionnaire to determine the environmental knowledge and attitudes of a representative sample of learners from rural and urban areas from north-western KwaZulu-Natal.

1.8.14 An analysis and evaluation of the results of the survey of learners' knowledge and attitudes.

1.8.15 Site visits to six (6) "Education Resource Centres"/ "Teachers' Centres" / "Education Development Centres" around KwaZulu-Natal: Chatsworth, Durban and Phoenix Teachers' Centres; CASME Richards Bay Resource Centre; Mbazwana Education Resource Centre; and the Bergville Education Resource Centre; to assemble information on:

- the historical background of each one;
- clarification of their nature of functioning and diversity;
- collection of data on current patterns of use and problems being experienced;
- documenting educational facilities, materials and services currently offered;
- surveying the staffing provisions (and functions); and
- recording Centres' Heads' recommendations of sustainable options and continuing service provision.

1.8.16 A review and analysis of documents and information collected of attempts made by these educational centres (1.8.15) to address the contextual needs of their communities.

1.8.17 An explication of the concept of the Environmental Education Centres of the KZNDEC becoming and being (educational and environmental) "agents of change" within their communities by means of an analysis of the socio-economic and educational context of a selected KZNDEC District.

1.8.18 Reports of correspondence with, and meetings with, stakeholders in the process of restructuring Environmental Education in KwaZulu-Natal.

1.8.19 A final collation, analysis and submission of the draft findings and conclusions drawn from the research conducted.

Respondent Groups will include:

- The three (3) KZNDEC Centres' Heads: Mr R Gaisford, Eshowe Environmental Education Centre; Mr J Keegan, Durban Environmental Education Centre; and Mr K Burge, the researcher, from Dundee Environmental Education Centre.
- The former Co-ordinator of the Environmental Education Section of the ex-Natal Education Department, Mr P van den Berg.
- The NEEP-GET KZN Provincial Co-ordinator, Mr S Jacobs, and both Technical Assistants, Mrs H Gudmansen and Ms P Ramsarup.
- The NEEP-GET National Co-ordinator, Mr C Olivier, and members of the NEEP-GET Inspection Team for KwaZulu-Natal, Professors C. Loubser and R O'Donoghue.
- The advisor for environmental matters to the Honourable Minister for Education, Dr R Wagiet.
- The head of SADC-REEP, Dr J Taylor, and members of SADC-REEP working group based at the Umgeni Valley Project, Howick, KwaZulu-Natal.

- Academics from the University South Africa (such as Prof. C Loubser), the University of Natal (such as Mrs K Ward) and Rhodes University (such as Prof. R O'Donoghue).
- Members of the Executive of the KwaZulu-Natal Environmental Education Curriculum Forum (KZN EECF).
- The Head of Education for WESSA (KwaZulu-Natal), Mrs L Britz.
- Mr M Gcumisa (Head Office Manager) of Ezemvelo KwaZulu-Natal Wildlife.
- Mrs M Mitchell and Mrs S Mokoena of BirdLife South Africa.
- A representative sample of educators from rural and urban areas from north-western KwaZulu-Natal, from the areas of Madadeni/Newcastle, Normandien/Dannhauser and Nquthu.
- The Heads of the Chatsworth Teachers' Centre, Ms S Govender; Durban Teachers' Centre, Miss N Zama; and of the Phoenix Teachers' Centre, Mrs K Pillay; of the CASME Richards Bay Resource Centre, Mr D Fish; Mbazwana Education Resource Centre, Mr T Mdletshe; and the (temporary) administrator of Bergville Education Resource Centre, Mr W Walters; and their personnel.
- Mr D Duncan of the Delta Environmental Education Centre.
- The Honourable Minister for Education and Culture in KwaZulu-Natal, Mr N Singh.

- Officials of the KZNDEC Head Office, such as the Chief Director: Education Management, Dr M Lötter; and of the KZNDEC Ukhahlamba Region, such as the Director: Support Services, Mr C Lancaster; and the Director: KZNDEC Umzinyathi District, Mr F Masondo.

- Officials of the KZNDEC Legal Section such as Mrs S Lapping, Mr S Chambers and Mr M Gwala.

1.9 PROGRESS OF RESEARCH

The research is divided into six (6) chapters:

Chapter 1: An introduction to the research process and methodologies. It also gives an overview of the plan of action and the philosophical background to the research.

Chapter 2: An examination of the role of “environment” in the Curriculum, a brief history of its incorporation into the Curriculum, and an investigation into the means by which it shapes educational processes. The chapter is concluded by a consideration of the KZNDEC environmental educators’ (demonstrated) attitudes towards Environmental Education within Outcomes-based education, teaching and learning.

Chapter 3: An analysis of the educational status and functioning of Environmental Education Centres within the formal structures of the KwaZulu-Natal Department of Education and Culture. This will encompass official recognition of the Centres; the environmental purpose of the KZNDEC Environmental Education Centres; the refocusing of the Centres’ service in, and after, the new democratic era; and an assessment of the educational value of the KZNDEC Environmental Education Centres.

Chapter 4: An analysis of the environmental status of the KZNDEC Environmental Education Centres under South African law, International law, and under international agreements to which South Africa is a party. Having established the legal right of existence of the Centres, an examination of how the Centres fulfil their (environmental) responsibilities towards their (educational) communities. This involves a review of research conducted in rural schools in the proximity of a KZNDEC EE Centre, and reportage of case studies involving attempts to promote Environmental Education skills, knowledge, awareness, and participation in schools through educators' workshops.

Chapter 5: An assessment of how KZNDEC Environmental Education Centres may best advance "sustainable environmental management" in their communities. The community of which Dundee Environmental Education Centre is a part is utilised in case study research determining that community's environmental and its educational needs. Suggestions are made, based on the research, for possible evolution of the KZNDEC Environmental Education Centres.

Chapter 6: The concept of Environmental Education Centres becoming and being educational and environmental "agents of change" within their communities is explored. Practical challenges associated with such a re-formation are explored within the socio-economic and educational context of a select KZNDEC District, and the attempts made by other educational centres to address their contextual needs are also examined. The concluding recommendations detail possible functions that a re-formed centre would perform as a conduit for servicing and resourcing the education community.