

## CHAPTER 2

# ENVIRONMENTAL LEARNING IN OUTCOMES-BASED EDUCATION

### 2.1 THE ROLE OF “ENVIRONMENT” IN THE REVISED NATIONAL CURRICULUM STATEMENT

Many feel that prior to 1994 the majority of South Africans were disadvantaged in access to natural resources (Biggs 1999 15:2; Wagiet 2001a:3; SADC REEP 2002:10), and that as a result they have been disproportionately affected by environmental degradation, unhealthy workplaces and living areas (ANC 1994:38).

The South African Constitution makes efforts to rectify this predicament by recognising the relationship between a healthy environment, social justice and human rights (Wagiet 2001b:3). It recommends “healing the divisions of the past” and “improving the quality of life of all citizens and freeing the potential of each person” (Constitutional Assembly 1996:1). It also guarantees the right of all citizens to “an environment that is not harmful to their health or well-being” (Ibid. 1996:11, Bill of Rights No. 24).

This indicates a national commitment to environmental action. It should, therefore, be reflected in the education system, in curricular activities, in cross-curricular teaching and learning in inter-related contexts:

“Our curriculum promotes human rights, social justice and a healthy environment, thus providing us with a platform to develop environmentally

literate and active citizens” (Asmal *in* Patching 2002:1).

Since discussions on an appropriate educational policy for the newly democratic South Africa began, many organisations (such as the EEPI, 1994-1995; the EECI, 1995-present; the KZN EECF, 1996-present) lobbied for a formal response to environmental concerns (Janse van Rensburg and Lotz 1998:1-2; Wagiet 2001a:2). The *Manifesto on Values, Education and Democracy* (Department of Education 2002a:7) identifies sixteen (16) strategies for familiarising South Africans with values of the Constitution through education. They find expression in the *Revised National Curriculum Statement* (RNCS; Department of Education 2002a:7).

The critical outcomes of the RNCS includes one that advances “responsibility... towards the environment and the health of others” (Department of Education 2002b:10), and an “understanding... of systems... [as a context for] problem-solving” (Ibid. 2002b:10). These “systems” can include environmental systems and challenges (Wagiet 2001a:4; cf. Clacherty 1995:4-5).

Integrating environmental issues into education processes can provide “sensitising and strengthening focuses,” and add “relevance and (re)organisation” to Learning Areas (Wagiet 2001a:2). “Environmental education implies... an enrichment of the curriculum and the whole learning experience... a refreshing and stimulating process through which the quality of many other courses and programmes could be refreshed and possibly upgraded” (Wilke, Peyton & Hungerford 1987 and Stone 1989 *in* Bornman 1997:57).

Linking “environment” with education in South Africa holds national and personal significance and it can contribute significantly to transformation and development (Sguazzin 2002:19): “It is important to educate our youth, within a framework of sustainable development, to

surmount the inequalities that perpetuate widespread global misery” (Prof. K. Asmal in Patching 2002:1).

## **2.2 A BRIEF HISTORY OF THE INCORPORATION OF “ENVIRONMENT” INTO THE CURRICULUM**

Increasingly, environmental education has become seen as not simply as “something that must be done” (Volk in Stevenson 1993:303), because responses to environmental challenges must be made, and processes to support socio-political changes must commence, and contributions towards the reduction of environmental risks must occur (Delta 2001:6).

It is not surprising, therefore, that the core objectives of the Tbilisi Declaration (1978) were problem-solving and an action-orientation (UNESCO-UNEP Newsletter, June 1992, in Palmer and Neal 1996:219): “Governments [should aim to update or prepare] strategies aimed at integrating environment and development as a cross-cutting issue into education at all levels... A thorough review of curricula should be undertaken to ensure a multidisciplinary approach, with environment and development issues and their socio-cultural and demographic aspects and linkages” (UNESCO-UNEP).

The 1989 South African White Paper on Environmental Education (Joubert 1994:2; Janse van Rensburg and Lotz 1998:4), and the 1991 Curriculum Model for Education in South Africa (CUMSA 1991:32 in Joubert 1994:2) proposed incorporating environmental education into formal education. The National Environmental Management Act (NEMA; Act No. 107 of 1998) commits the South African government to sustainable development (NEMA 1998:6), emphasising the need for environmental education and capacity building in all sectors of South African society (Ibid. 1998:1; cf. Sguazzin 2002:14).

In August 1993, stakeholders from all parts of South Africa met at Dikhololo (Sguazzin 2002:2). Under the auspices of the EEPI (the Environmental Education Policy Initiative; Leballo 2002:2), a recently-formed interest group, they discussed the formalisation of “a framework for the infusion process of environmental education into the curriculum of formal education” (Clacherty 1995:3; Janse van Rensburg and Lotz 1998:1; Joubert 1994:2; cf. Robottom *in* Bowen 2000:132-133). The EEPI expressed appreciation of the Reconstruction and Development Programme (RDP) that recommended “[co-ordinating] environmental education with education policy at all levels” (ANC 1994:40; Janse van Rensburg and Lotz 1998:7).

In 1995, the EECI (Environmental Education Curriculum Initiative) succeeded the EEPI. The White Paper on Education and Training was also promulgated in 1995. It had articulated the need for environmental education processes involving an “inter-disciplinary, integrated and active approach to learning” as “a vital element of all levels and programmes of the education and training system” (in Janse van Rensburg and Lotz 1998:7; in Wagiet 2001a:4; and in Leballo 2002:2). The EECI explored the role of “environment” within the proposed Outcomes-Based Education (OBE) Curriculum (Janse van Rensburg and Lotz 1998:2), especially at a special session at the 1996 Stellenbosch EEASA Conference.

When “Curriculum 2005” was instituted, the South African Qualifications Authority (SAQA) gave recognition to six (6) “phase organisers” (or “critical cross-field concerns”):

- Communication
- Entrepreneurship
- Environment
- Health and Safety
- Personal Development and

- Society (Van der Watt and Beeton 1999:5-6; Wagiet 2001a:4).

Since then, these “organisers” have been discarded. References to the necessity for education *about, in, and for* the environment (cf. O’Donoghue 2000:5) do, however, remain, embedded in a number of environmentally-focused specific outcomes of the Learning Areas (Department of Education 2002a:10; cf. Lotz-Sisitka and Raven 2001:5-6). Indeed, “it is generally accepted that environmental education should be integrated with the curriculum of all disciplines so that its holistic and interdisciplinary nature is demonstrated” (Bornman 1997:57; cf. Fien 2002:10).

In 2000, the Gauteng and Mpumalanga Education Departments piloted capacity-building in-service courses (INSET) for teachers and curriculum-development in the Learning for Sustainability Project (LSP; Du Toit, Sguazzin and Bjerg-Hansen 2000:2; Sguazzin 2002:3). LSP focused on “educational transformation ... [that would] make a contribution to more sustainable living patterns and a healthy environment” (Du Toit *et al* 2000:4). Danish funding for this project was extended to a National Environmental Education Programme for General Education and Training (NEEP-GET), launched in 2001 (Leballo 2002:2; Sguazzin 2002:1).

In that same year, the Council of Education Ministers resolved, “particular attention should be given to History and Environment” in the Revised National Curriculum Statement. “Environment” would be promoted as a “transversal issue relevant to each Learning Area” (Wagiet 2001b:2). As has been stated, awareness would be created in the “relationship between [*sic*] human rights, a healthy environment, social justice and inclusivity” (Department of Education 2002:10), which is in line with a holistic conception of “environment” (O’Donoghue 2001:3).

Hence, linking “environment” and the national curriculum is not an innovation. In the

contemporary educational dispensation, environmental education centres should change from supporting environmental education as an extra-mural activity, as was the case in the old curriculum (pers. comm., C Olivier 13 September 2002; Clacherty 1995:26) to “servicing the new curriculum [with] an EE focus within each learning area” (Olivier 2002). In other words, “environment” must be seen as integral to the education system (Van den Berg 2003). To retain professional relevance, it would appear to be imperative that the environmental educators of the KZNDEC respond positively to “fundamental educational challenges,” both:

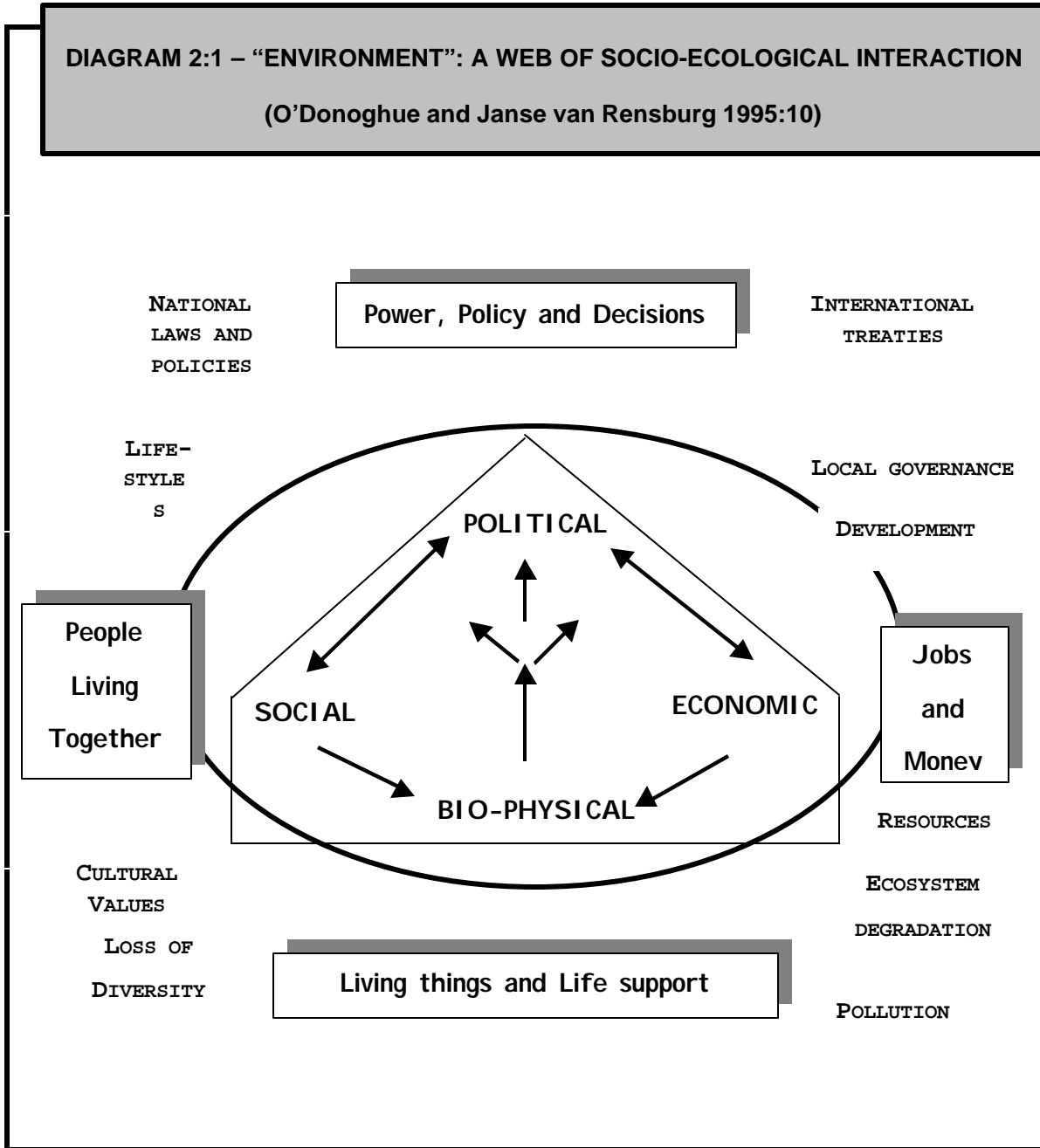
- Environmental, in the awareness, and the resolution, of environmental issues; and
- Pedagogical, in the provision of learning support with the potential to foster environmental learning that “contributes to democratic and emancipatory human development” (Dreyfus, Wals and van Weelie 1999:156 in Lotz-Sisitka and Raven 2001:32; cf. Asmal and James 2002:214-215).

Trivial, quasi- or pseudo-educational activities can be neither adequate, nor academically defensible, as responses from the environmental educators of the KZNDEC for the advancement of the curriculum, and for environmental education processes within it (Wagiet 2001a:7; vide Section 2.5).

### **2.3 SHAPING EDUCATIONAL PROCESSES THROUGH “ENVIRONMENT”**

O’Donoghue suggests, “The earth is a living world made up of many environments [bio-physical, social, economic and political] that we experience as the surroundings in which we live” (2001:3; see **DIAGRAM 2:1**). Each aspect interacts with the other/s, and communities

of humans and of other living things too interact within them to shape our surroundings  
 (Janse van Rensburg and Lotz 1998:9-10; ESGI 2000:1-2):



O’Donoghue has suggested that a process of redressing those practices that have degraded the capacity of the environment to sustain life (“engaging change”) has become necessary

(O'Donoghue 2001:3). Educators should create meaningful opportunities for their learners to explore and develop sustaining alternatives for "present and future generations" (Wagiet 2001a:16; cf. Bill of Rights 1996, Item 24). Learners should "develop the skills to work towards the unethical exploitation of the earth" (Prof. K Asmal in Lotz and Raven 2001:1).

Such "active learning" involves critical thinking and involvement in real issues and encounters in learners' immediate environment (O'Donoghue 2001:7). "[It can be] as much a scientific concern as a cultural concern; it relates to economic systems as well as to the lifestyle choices of the individual in society" (Wagiet 2001a:7). A learning phase or class group can become actively involved in three interlinking processes: finding and sharing information about a relevant environmental issue or risk (as a focus); exploring the issue; and reporting and/or taking action to solve the problem (Lotz 2000:8; O'Donoghue 2000:7).

Interacting in, and managing, one's environment thus becomes a critical focus in all educational activities, at all levels (and ages) of learning (Wagiet 2001a:7), and such methods embrace many or all of the learning areas' developmental outcomes. They also help develop a range of practical skills, knowledge and values, from "sophisticated concepts appropriate to the senior phase of the GET, as well as values and experiences relevant to development in early and middle childhood" (Ibid. 2001a:7).

Incorporating the "environment" in each learning area can be a strengthening focus, endowing particular integrative and/or motivational meanings to knowledge and skills proffered. Providing context, and thus relevance, strengthens learning towards critical outcomes (Ibid. 2001a:9). It also "prepares students effectively to be socially critical" (Huckle 1991 in Bornman 1997:58).



This issue-based learning content, that has become the medium for the environmental educators' message, is thus part of a dynamic process that "provide[s] the opportunity for... learners... to become aware of, concerned about, and committed to the environment" (KZNDEC EECF Vision 1996). The environmental educators of the KZNDEC need to assist their classroom-based colleagues in developing "the necessary confidence to move away from using content based method to learning methods which use content to develop lifelong skills and provide insights into concepts" (Tselane and Mosidi 1998:5).

[In an exploration of their stance on incorporating environmental education in outcomes based education, structured interviews were conducted with the Heads of the Durban and Eshowe Environmental Education Centres on 2 March 2003 as part of this study. An example is attached as **APPENDIX 2:A**. The researcher, the Head of the Dundee Environmental Education Centre, responded to the questions in a written format.]

#### **2.4 KZNDEC EE CENTRE HEADS' ATTITUDES TOWARDS EE WITHIN OBE EDUCATION, TEACHING AND LEARNING**

Answering the question, "What are your objectives with your Centre?" [Question 8 in the structured interviews; see **APPENDIX 2:A**] one Centre Head placed methodology higher than content: "I'd like my Centre to be as high in quality education as possible; for it to be seen as a place of educational excellence; and then as a place where environmental matters become lifestyle things, through those educational processes"

Another Centre Head, asked, "Why do you think that it is important to incorporate 'environmental matters' into the curriculum?" [Question 11; see **APPENDIX 2:A**], replied, "Why not? In the end, environment is everything... everything around us and part of everything we do." A colleague agreed: 'Environment' touches on everything. Everything we

do... we eat... affects the environment. It affects everything of our lives.” And the third said, “We are stewards of the environment, and we have a mandate to care for it. We need intelligent, skilled citizens (with a head start because of our educational system) who preserve and improve on their (total) surroundings.”

Pragmatically, the first added, “Because I’m running an environmental centre and, as such, it has to be of some relevance in the education system; and seeing as we are part of the education system, we are the environmental ‘arm’ and we need to keep ourselves relevant.. It’s what we are paid to do.” The first colleague echoed these sentiments: “[It’s our job] to provide opportunities for as many learners and educators as possible to experience how ‘environment’ can be a part of one’s life, especially (because we are, after all, in environmental education), in the educational sphere.”

[On 3 March 2003, the three Centres’ Heads each completed a questionnaire whose aims were to “determine what sorts of programmes are offered at KZNDEC Environmental Education Centres; the effectiveness of those programmes; and how best the Centres can encourage “environmental learning.” An example of the questionnaire is attached as **APPENDIX 2:B**].

Problems with our programmes include...		
a.	<input type="checkbox"/> we don't really know what is in our visiting learners' curricula	①②③
b.	<input type="checkbox"/> it's difficult to know how much the learners are "taking in"	①②③
c.	<input type="checkbox"/> how much effect our lessons will have on the learners' lives	①②③
d.	<input type="checkbox"/> we have almost no contact with the learners once they return home	①②③

**FIGURE 2:1 – CENTRES’ HEADS’ QUESTIONNAIRE (PROBLEMS PERCEIVED IN KZNDEC ENVIRONMENTAL EDUCATION CENTRES’ PROGRAMMES)**

Faced with “scenarios” that face KZNDEC Centres, two of the three Heads ranked knowing “what is in our visiting learners’ curricula” as the least of their problems; the other ranked it second (see **FIGURE 2:1**; Question 16), with two (2) ratings of “1” (“no/weak”) and a third of “2” (“OK”).

However, challenged to distinguish differing styles of environmental education teaching (see **FIGURE 2:2**; Question 3) – where item b. was blatantly “nature at risk”, and c. and d. referred to OBE-style reasoning, two selected b. as the third most important factor (with ratings of “2”), and ranked c. and d. as vital (with unanimous rankings of “3”). This reflects much about their attitudes towards the curriculum in their centre-based teaching.

**FIGURE 2:2 – CENTRES’ HEADS’ QUESTIONNAIRE (HOW THE KZNDEC EE CENTRES’ HEADS WOULD LIKE THEIR CENTRES TO BE KNOWN)**

The portrayal of Environmental Education that I would like known about my Centre is one where learners and educators...

- |    |                          |  |     |
|----|--------------------------|--|-----|
| a. | <input type="checkbox"/> | learn a great deal about our particular environment                                    | ①②③ |
| b. | <input type="checkbox"/> | are challenged in our lessons about the precarious state of South Africa’s environment | ①②③ |
| c. | <input type="checkbox"/> | gain skills where they can think through problems and reason out ways of solving them  | ①②③ |
| d. | <input type="checkbox"/> | learn skills that can be transferred to their own environment’s issues and problems    | ①②③ |

**2.5 KZNDEC EE CENTRES’ HEADS’ PRO-ACTIVE STANCE TOWARDS EE WITHIN OBE EDUCATION, TEACHING AND LEARNING**

There is a need to educate *for* the environment, engaging learners in “the intellectual tasks of critical appraisal of environmental (and political) situations and the formulation

of a moral code concerning such issues, as well as the development of a commitment to act one one's values by providing opportunities to participate actively in environmental improvement" (Stevenson 1987:73 in Fien 1993:5).

Because no definitive educational role ("job description") had been delineated (by the KZNDEC) that encompassed work in the Regions (cf. Chapter One Section 1:2), the Centres' Heads conferred during November/December 1999. They submitted a *Strategic Plan 2000-2002* (KZNDEC Environmental Education Unit 1999) to the KZNDEC Superintendent-General (KZNDEC Environmental Education Unit 2000a). Later, a "medium-term Management by Objectives document [*Action Plans*], to confirm the implementation of [the] *Strategic Plan*" was also put forward:

"These documents set out the goals that we have projected for ourselves to achieve this vision [of encouraging educational activities that develop responsible lifestyles in harmony with the environment] (KZNDEC Environmental Education Unit 2000a).

... [They] include representivity and transparency, the forming of helpful partnerships, curriculum development, the delivery of PRESET and INSET; assistance with the establishment of Schools' Environmental Policies, AIDS/HIV awareness education and judicious governance of the KZN DEC's EE Centres" (Ibid.).

In the tasks set for themselves, the Heads proposed "[developing] partnerships with all other EE service providers... in order to further environmental education in the education system in KwaZulu-Natal" (KZNDEC EE Unit 2000b:6). This would involve "joint workshopping and advocacy of the incorporation of environmental education via provincial and national 'OBE'

bodies and Standards Generating Bodies” (Ibid. 2000b:9), thereby “keeping [all Learning Area committees] informed of issues and trends in environmental education and influencing curriculum development in all Learning Areas towards the inclusion of environmental education” (Ibid. 2000b:2).

They would further provide “skills” through PRESET, and “competence and confidence” through INSET, in implementing cross-curricular environmental education in the classrooms and in the field (Ibid.).

## **2.6 SENSITIVITY OF KZNDEC ENVIRONMENTAL EDUCATORS TO THE ENVIRONMENTAL CRISES**

Environmental education, especially in the South African context, is a reaction to environmental issues and a process and activities that address socio-ecological concerns (Delta 2001:1). A conceptual shift has occurred because of this country’s peculiar history. Environmental educators should be sensitive to political ramifications and to those “inequalities... [that] continue to threaten our democratic process” (Prof. K Asmal *in* Lotz and Raven 2001:1).

Apparently, opportunities for environmental learning provided for visiting students at certain South African environmental education centres have proved to be trivial and predominantly “experiential” (KZNDEC Environmental Education Unit 2000a:13; Wagiet 2001a:5 and 11). There is little evidence that their programmes have taken socio-economic and political factors into account (Delta 2001:9) and engage practical, local environmental issues (Clacherty 1995:4-5).

On the other hand, KZNDEC environmental educators aver that their Centres promote “environment” as a “curriculum enhancer” (Interviews 2 March 2003; cf. ESGI 2000:10;

Clacherty 1995:5-10). The response may be that if the environmental education programmes presented at KZNDEC Centres are unable promote reform and transformation (Bornman 1997:58), surely other strategies should be devised “to prepare students effectively to be socially critical” (Agenda 21, DEAT 1998:65; Huckle 1991 in Bornman 1997:58)?

This is the focus of Chapters Five (5) and Six (6), which explores ways in which an environmental education centre might advance “sustainable environmental management” within the socio-economic and educational context of a community.