
Editorial

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The Environmental Education Association of Southern Africa is preparing its annual Conference to provide an opportunity for environmental educators in the SADC region and beyond to share, critically reflect and build upon our EE experiences. This year, the Conference is being organised by the Namibia Environmental Education Network and its partners and is aimed to expose EE practitioners to others in the field of EE and environmental work throughout the SADC region. Considering that EEASA is going to celebrate 21 years, this conference will be focusing on the diversity and development of EE processes over the past 21 years and looking at the future of diversity and development of environmental education processes.

After the success of the “Environmental Education Processes for Sustainable Development” Conference held in Gaborone, Botswana, where a working document highlighting some of the current environmental issues we are facing and recommending some actions were produced. This document, known as the 'Gaborone Declaration' is being widely used by environmental educators in the SADC region. EEASA has also printed a Monograph on Environmental Education, Ethics and Action in Southern Africa. This publication, a partnership with the Human Science Research Council, is a collection of papers from the SADC region and it provides non-specialists and scholars as a window onto environmental challenges in a diversity of African contexts. EEASA is currently working on the next EEASA Journal which will be focusing on 'Policy in Practice' as a contribution to the growing debate on the ethics of environmental policy making and implementation issues related with policy in practice in southern Africa.

This Bulletin tries to explore the diversity of environmental settings in the SADC region and brings a series of 'stories' from people working in the field of environmental education. In the first article Ally Ashwell describes how the City of Cape Town in South Africa supported the development of a school pack and emphasises the importance of links between materials and curriculum. The two articles following this, explore the relationship between language and indigenous knowledge in Lesotho. Pascalina Mabitle draws on her work experience to share indigenous stories from the Basotho which have influence in their daily lives. George Band reports on the work that he is doing in the Lake Malawi National Park. The issue of parks is also explored by Emma Stone, who reports on how environmental education activities became central to the work at the Munda Wanga Environmental Park. Sinyana Chrispin reports on an environmental conservation exhibition that took place in Lusaka emphasising the links between the exhibition and the curriculum.

An interesting article with some tips on how to set up and use interpretative labels in botanical gardens is written by John Roff from the National Botanic Institute. Alistair Chadwick from the SADC Regional EE Centre writes on an EE course for the formal sector of education and describes the curriculum on which the course is based on. The school pack mentioned by Ally Ashwell in the first article is being updated and pilot tested in South Africa. Lausanne Olvitt explains what has changed and what are the main innovations in the new 'Schools and Sustainability Pack'. In the last article Gherda Ferreira presents the results of the assessment of an environmental education centre in the Kruger National Park.

We also provide some brief news on environmental education activities being developed in the SADC region and they range from EE courses to learning support materials for environmental reporting or to support curriculum. There is also information on new learning support materials developed to support environmental education processes.

There are also some exciting conferences and courses taking place this year. In this issue of the bulletin you will find more information about these activities. See what you are really interested in and go for it.



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ARTICLES

School Environmental Policy and the Curriculum Describing a Learning Programme Development Project

Ally Ashwell



The School Environmental Policy project

Most EEASA members will have come across the very useful *School Environmental Policy and Management Plan* (SEP) pack that Share-Net has been developing for a number of years. The pack helps schools to put environment onto the agenda through a process of conducting an environmental audit, developing a school environmental policy, and planning, implementing and evaluating environmental action.

Linking action to the curriculum
The City of Cape Town introduced the SEP project to about 20 schools during 1998. At the end of that year, the schools shared their stories of environmental action in an inspiring book that, over the years, has been a

source of encouragement to many other schools. However, the co-ordinator of the original project, Glenda Louw, observed that relatively few of the schools made links between their schools' environmental policies and action projects and the formal curriculum of the school. She recommended that a follow-up project be undertaken to encourage the development of learning programmes based on these environmental policies and projects. The City of Cape Town and Old Mutual made funding available through

WWF-SA, and the follow-up project was eventually initiated in the third term of 2001.

In order to successfully integrate environmental concerns into the school's formal curriculum, the learning programmes should relate to the curriculum frameworks for the particular grade or phase. Although Curriculum 2005 provides South African teachers with greater flexibility of *content* than the old syllabus-based curriculum, teachers must fulfil the *outcomes* and *assessment* requirements outlined in



Figure 1: Teachers discussing the development of environmental learning programmes.



the curriculum documents. During the course of the project last year, the draft National Curriculum Statements were released. We decided to engage with these new frameworks and use them as the basis for our environmental learning programmes.

The Active Learning Framework is a very useful model of environmental learning. During the workshops, teachers were introduced to the model and encouraged to apply it when planning their learning programmes. The

framework reminds us to take account of what learners already know and understand, and to provide opportunities for learners to:

- share and find information,
- undertake enquiries and environmental encounters,
- take action to address environmental concerns, and
- report on their findings.

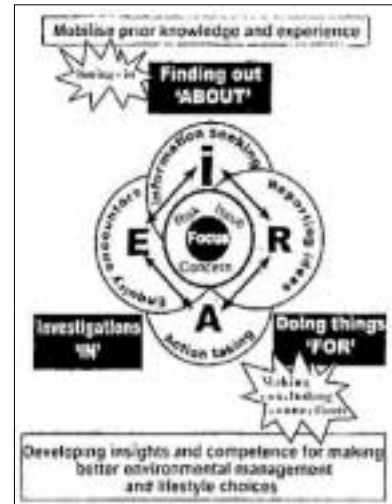


Figure 2: The Active Learning Framework.

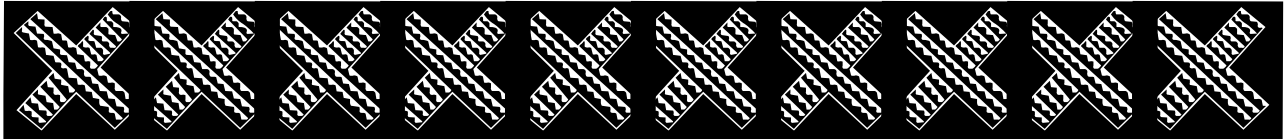
Looking at the units

The nine learning programme units cover a range of environmental concerns for various learning areas and phases.

SCHOOL	FOCUS	LEARNING AREAS	PHASE
Habibia Primary	Fynbos and Our Environment	Technology	Senior
Herzlia Highlands Primary	Water Matters	Natural Sciences	Intermediate
Islamia College	Marine Matters	Natural Sciences, Language, Maths	Senior / FET
Levana Primary	Preventing Pollution	Social Sciences	Intermediate
Luzuko Higher Primary	Sunflower Studies	Languages, Life Skills	Foundation
Muizenberg High	Protecting Wetlands	Social Sciences	Senior
Sea Point Primary & Rocklands Primary	Trees Across the Curriculum	Cross Curricular programme	Intermediate
St George's Grammar	Wetlands: A Fragile Balance	Natural Sciences	Senior / FET
St Mary's Primary	Packaging and Pollution	Natural Sciences, Technology	Senior

Table 1: Environmental learning programmes developed by teachers.





Let's look more closely at some of the learning programmes that the teachers developed:

Learning areas and environmental concerns:

The teachers developed two cross-curricular learning programmes in response to popular events on the environmental calendar: Arbor Week and Marine

Week. *Trees Across the Curriculum* focuses on primary school learners and *Marine Matters* was developed for a high school context. The centre-spread of the learning programme unit gives an idea of some of the activities that can be covered in different learning areas.

The other seven learning programme units focus on one or two learning areas each. Let's look at one of the units to see how they are organised:

Introductory notes:

The front page introduces the focus of the environmental learning programme, and indicates the learning area(s) and phase for which the unit has been designed. It also lists the learning outcomes and critical outcomes that the unit addresses.

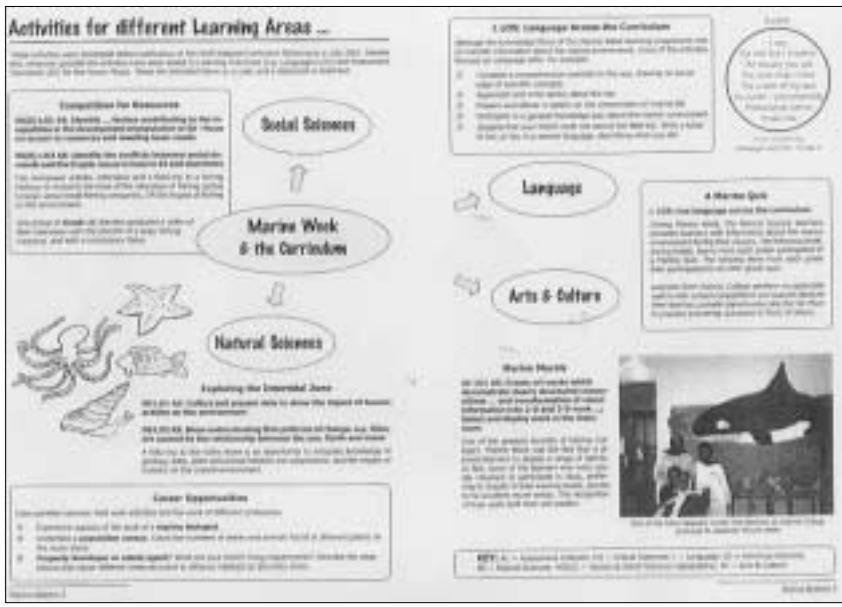


Figure 3: The centre-spread of 'Marine Matters' outlines activities that can be done in Natural and Social Sciences, Languages and Arts and Culture at Senior Phase.



Figure 4: Front page of the learning programme unit: 'Wetlands – A Fragile balance'.



International Training Programme

The Swedish International Development Cooperation Agency, Sida, supports International Training Programmes through various institutions. The following are some of the courses offered with respective website address to find out more:

- Watershed Management - www.natura.scc.se
- Environmental Education Processes in Formal Education - www.natura.scc.se
- Environmental Journalism - www.fo.hik.se
- Environmental Management and Development - www.sisforum.se





Learning programme tables:
The centre-spread provides details of the actual activities undertaken, starting with the introductory activities that establish what the learners already know and stimulate interest in the environmental focus. The main body of the learning programme generally includes activities that require learners to find out more about the environmental focus,

and the concluding activities encourage them to report on their findings and take further action. Details such as timing and resources needed to complete each activity are also given.

Outcomes-based education and Curriculum 2005 require teachers to assess far more than what learners can remember. Each activity is described in terms of

the assessment standards it enables learners to achieve, and the assessment strategies that teachers can use to evaluate knowledge, skills and attitudes. As previously mentioned, we chose to use the assessment standards outlined in the draft National Curriculum Statements published in July 2001.

Learning Programme Planner ...					
	Activities	Timing	Resources Needed	Assessment Standards*	Assessment Strategies
Introduction "Taking In"	<ul style="list-style-type: none"> Provide pictures of different kinds of wetlands, e.g. freshwater wetlands, marshes, bogs, swamps, etc. Encourage the learners to ask questions and share what they know about wetland ecosystems. Give learners information on water and wetlands to read in order to try to answer some of the questions they have posed (e.g. Review Facts 1-4 or the information sheet included in this unit). 	<ul style="list-style-type: none"> Last to third Wednesdays Day or Water Week 2 periods + assignment 	<ul style="list-style-type: none"> Pictures of various types of wetlands Short video on wetland conservation Information on wetlands, e.g. Enviro Facts, magazine articles, books, the Internet 	<ul style="list-style-type: none"> Assessment Standard adapted from NS L01: Find and report information (on SA wetlands) Assessment Standard adapted from NS L02: Describe the structure of the Earth ... in relation to the biosphere (i.e. describe the structure and functioning of wetlands with regard to living organisms) CO 4: Collect, analyse and evaluate information 	<ul style="list-style-type: none"> Use class discussion to determine what the learners already know, and to deal with misconceptions Analyse individual records of questions and answers
Body "Feeling Our"	<ul style="list-style-type: none"> Visit a local wetland and observe / study aspects of the wetland ecosystem (e.g. type of wetland; habitat for plants and animals; energy flow; ecosystem services). In groups, make a model of a wetland using materials of your choice. Demonstrate how it acts as a "filter" and as a "sponge" and how wetlands help to reduce the risk of flood damage. Find current information on threats to wetlands (library, internet, media). Prepare and hold a discussion on threats to and conservation of wetlands. 	<ul style="list-style-type: none"> 2 periods + field trip 2 periods 1 period 1 period 	<ul style="list-style-type: none"> Wetland venue and possible guide; field work assignment, worksheet, background info; equipment to sample or observe the wetland Materials provided by learners or teacher, e.g. sponge, carpet scraps, baking tray or gutter, clay, soil, water bucket Information sheets, articles, internet access (optional) 	<ul style="list-style-type: none"> Assessment Standards adapted from NS L01: <ul style="list-style-type: none"> Research and build models to explain (aspects of wetland functioning) Investigate factors that affect the performance of the (wetland) system ... Collect and present data to show the impact of human activity on the environment Assessment Standards adapted from NS L02: Explain how energy is transferred in systems ... Assessment Standards adapted from NS L03: Investigate and explain a current environmental issue in the community CO 2: Work effectively with others CO 7: Demonstrate that the environment is a set of related systems 	<ul style="list-style-type: none"> Assess completed field work record sheet (teacher, peer or self-evaluation) Observe behaviour during field trip (check list) Peer assessment by learners of group work (rubric) Observe understanding during model building (check list) Rubric for oral presentations Assess information sourced during research period Observe participation in discussion - Listen for general understanding of issues and concepts and use of terminology (oral)
Conclusion "Report & Review"	<ul style="list-style-type: none"> Write an article for the school newsletter on saving our wetlands. Allow this activity to lead on to some action by the class to respond to a threat to a local wetland, for example. 	<ul style="list-style-type: none"> assignment 		<ul style="list-style-type: none"> Assessment Standards adapted from NS L01: Develop an action plan to communicate findings to the larger community CO 5: Communicate effectively ... 	<ul style="list-style-type: none"> Assess individual understanding of issues and concepts and use of terminology in articles Assess ability to express ideas in written form

NSL01 CO = Critical Outcome; L0 = Learning Outcome; NS = Natural Sciences

* The learning programme unit was developed before publication of the Draft National Curriculum Statements, which are currently under review. The Assessment Standards are therefore based on a broad interpretation of the Natural Sciences Learning Outcomes, in the context of a focus on Wetlands.

Wetlands: A Fragile Balance 2 Wetlands: A Fragile Balance 3

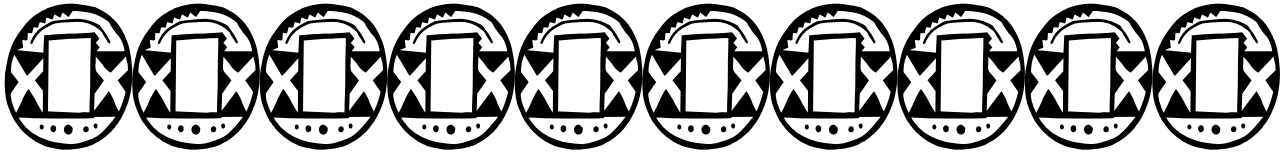
Figure 5: Centre-spread of the learning programme unit: 'Wetlands – A Fragile Balance'.

Reflecting on the learning programme units:

The learning programme units are not recipes but rather examples of what teachers in certain schools in Cape Town have developed for their particular learners. Teachers interested in developing their own environmental learning programmes can get

ideas from reading through these learning programme units; however they are unlikely to follow them exactly because their contexts and the resources available to them will not be the same. To encourage the reader to reflect on the learning programme unit, a short questionnaire is provided on the back page. It asks you to

think about what the teacher did in his or her particular context, before developing a learning programme that is appropriate for your own context. So, for example, you can consider the environmental focus the teacher chose and how she or he made it meaningful to the learners. It asks you how the author fulfilled



the requirements of Curriculum 2005 (e.g. outcomes and assessment standards) and to think about which ones you would use to develop a learning programme of your own. In terms of environmental learning opportunities, it asks you to identify how the teacher applied the principles of Active Learning, before trying to develop your own environmental learning programme.

Inserts:

Each learning programme unit folder contains a resource list, giving the ‘People, Places and Publications’ from which teachers can get support to complete the learning programme. In most cases, the teachers included additional information such as activity sheets, worksheets, background information or assessment rubrics.

An invitation:

The National Environmental Education Programme (NEEP) in South Africa is providing a supportive context for teachers wishing to explore the links between environmental action and learning in schools. We hope that educators interested in environmental learning will find these units useful, and be encouraged to develop and share their own environmental learning programme units through their provincial NEEP forums.

A full set of learning programme units may be ordered from Share-Net. Tel: (033) 330-3931.

Thanks to the many people who have participated in and contributed to this project:

- Glenda Louw-Raven and Heila Lotz-Sisitka for compiling the original project proposal;

- The teachers who shared ideas and experiences so generously and developed inspiring learning programme units: Fadiah Abbas, Zita Chee Mee, Theresa Cupido, Vivienne Howard, Moehreeg Abader, Fatima Ebrahim, Dor Mawisa, Kuku Dangazele, Wendy Ginsberg, Sandy Wynne, Dana Silver, Liz Going, Karen Hamman;
- Heila Lotz-Sisitka and Rob O’Donoghue for their valuable comments and suggestions on the draft learning programme units;
- The City of Cape Town (in particular Lindie Buirski) for ensuring that the SEP project happens in the city;
- The City of Cape Town, Old Mutual and WWF-SA for funding the project – in particular Lindie Buirski, Liyanda Maseko, Janet Cook and Hettie Gets for their personal interest in the project;
- Share-Net for the wonderful support they provide to resource development projects in the region!

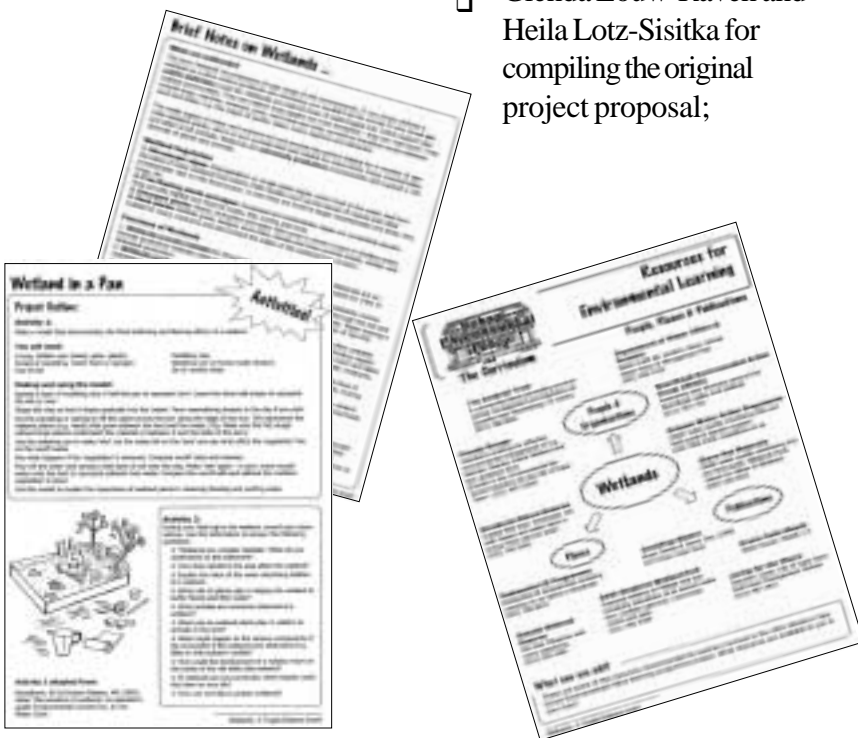


Figure 6: The learning programme unit contains a resource list on Wetlands, an information sheet and an activity learners can do to show that they understand two important functions of wetlands.

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The Sesotho Language and the Environment:

How the Sesotho language reflects the condition of biodiversity of Lesotho in the past

Pascalina Mabitle

Sesotho is an indigenous language of the Basotho people mostly found in Lesotho and some parts of South Africa. It is also a subject that is offered in the schools and in the institutions of higher education. When nations struggle to put together the fragments of their biodiversity status in the past, the Basotho have their language as a reference point. Lesotho's past state of biodiversity is documented in the Sesotho language through place-names, proverbs, clans and animal praises to name but a few. Let's take a journey through some of these and discover the treasure.

Names of places

When the Basotho give anything a name, they base the name on things such as incidents, what is found in that particular place and the prevailing situation at the time. The names of places in Lesotho are found in both singular and plural forms. The names in the plural form, the way I see it, indicate the existence in abundance of what was/is found in a particular place while those in singular form indicate existence in small numbers of species referred to. Here are examples of names of places in both singular and plural form:



Pascalina Mabitle

- Phiring** (place of a hyena)
- Liphiring** (place of hyenas)
- Likhakeng** (place of the guinea fowls)
- Nkoeng** (place of the leopard)
- Mokhotlong** (place of bald ibis)
- Nokong** (place of porcupine)
- Linokong** (place of porcupines)

The above indicates that in one area there were/are more species than in another area depending on how suitable the area was/is for their multiplicity. An example is, places like Phiring (place of a hyena) and Liphiring (place of hyenas). Such places are not even closely located and their geography is different.

Proverbs and idioms

According to Guma S.M. (1967.65) proverbs and idioms "reflect...physical environment as well as its plants and animals including their characteristics". Here are some of the proverbs

and idioms that reflect the then state of biodiversity. Literal translation will be provided in the brackets.

Birds

Ho ruta mpshe lebelo (To teach an ostrich to run) To teach somebody the life tricks.

Bana ba khoale ba bitsana ka meloli (Children of partridge call one another by whistling) People who are related support each other.

Animals

Basali ke tau li mesana (Women are lions in dresses) Women are strong and influential.

Marema-tlou a ntsoe-leng. (Elephant hunters have same voice) A big task requires unity and same opinion.

Reptiles

Marabe o jeoa ke bana. (Puff adder is eaten by its young ones) Parents go through sacrifices in order for their children to survive.

Ants

Ho jeoa ke lintsa tsa kobo ea hao (To be eaten by the lice of your own blanket) To be betrayed by a person closest to you.

Lice were very important to the



Basotho. They indicated whether a person was healthy or not. When a person was ill but lice were seen going up and down his body, family members would know that his blood was not infected. If lice dropped dead they would know that the person's blood was infected and this helped them in selecting appropriate herbs that would purify blood.

Clans

The Basotho nation is made up of people of different clans with different totems. The clans, besides strengthening blood relationships, inculcate love for animals (totems) that lead to the protection of such animals. As a result of these clans, the Bafokeng would vow not to eat a hare, a practice which unfortunately has diminished today. Examples of a few clans are: Bataung (people of the lion) Batlounge (people of the elephant) Bakubung (people of the hippo-

potamus)
Bafokeng (people of the hare)

Animal Praises

According to Guma S.M. (1965:146). "Animals that were known to the ancient Basotho were praised in various ways. Included in the poems is animals' habits and characteristics".

Phiri (hyena)

Thamahane, ngoan'a malika ts'olo la ka phirima.

Na mots'eare u ts'abang ho le lika?

Ke ts'aba melato nthong tsa batho.

"Hyena, hunter by night,
Why are you afraid to hunt by day?

I fear trouble in people's property".

Kubu (hippopotamus)

Kubu ho hlapa lipotlana


Tse kholo lia lala feela. Kubu ea goela, ha hlaha mokokotlo.

Ha hlaha le mots'etlase oa basali.

"It is the young hippos that swim, The big ones merely lie on it. The hippo dived and only its back shows, including its shin-bone". The above is a record of animals, birds, ants, plants and reptiles. The fact that the Basotho named places after these species, testifies to the fact that such species once lived in Lesotho. Totems of the Basotho give record of animals that once lived in this country though some have vanished from the scene. Animal praises reflect a very close interaction of the Basotho and the wild animals to an extent of knowing habits and characteristics of such animals. What remains a challenge to the Basotho now, is to find ways of reinstating biodiversity.

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FIRST WORLD ENVIRONMENTAL EDUCATION CONGRESS


20 - 24 May 2003, Espinho, Portugal

FWEEC will gather researchers and environmental education professionals from all around the world and aims to provide an international forum for discussions on the latest and future trends related to environmental education. The official languages of the meeting will be English, Portuguese and Spanish.

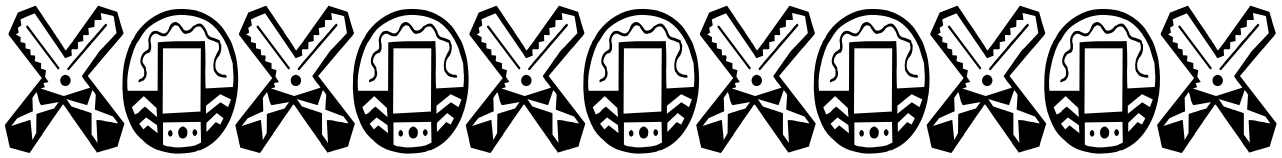
Deadline for the submission of manuscripts: March 29, 2003.

For more details visit the FWEEC website at: <http://www.1weec.net>
or contact the registration desk at

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The Basotho and the Names of the Months

Pascaline Mabitle

It has come to my realisation that people are drifting away bit by bit from the way they conducted their lives in the past. For instance these days, for people to know about environment they have to go through formal education systems and specialise in different fields. The same thing happens when people need to conserve and develop their environment, they look for experts from certain institutions of higher education, yet they are experts themselves in their areas. This to me seems to be a 'blind' interaction of people with their environment, which was not the case in the past.

The indigenous Basotho had their own type of formal schools (initiation schools) which did not restrict them to interact with their environment. This close interaction of the indigenous Basotho with their environment is seen in the Sesotho year and in the names of the months of the year. The Sesotho year begins at the eighth month, **Phato** (August), of the calendar year. **Phato** is from the verb **ho fata** meaning to dig or open up the soil. This is the month when the Basotho began ploughing so that at the start of the next month, when life would be seen in every living thing, their crops would come to life too. This month is associated with

strong winds and storms but it is not cold.

The second month of the Sesotho year is **Loetse** (September). This is the month during which there is a lot of milk especially soured milk because, at this time, there is enough grass for the animals to feed on. The name itself means too much milk (**lebese le oetse**).

The third month of the Sesotho year is called **Mphalane** (October). It is so named because around this time of the year herd-boys and young children make a lot of noise blowing the **leshoma** plant flowers. Since this type of flower gives a whistling sound, they are called **liphhalana** (small whistles). The Basotho therefore observed it as the month of the whistles. It was also around this time that spring-bok delivered their young.

The fourth month of the Sesotho year is called **Pulungoana** (November). **Pulumo** (wildebeests) and **ngoana** (child). The close interaction of the Basotho with their environment was such that they knew that around this time wildebeests give birth to their young. It is also during this month that **setlonono** (a species of locust) make a lot of noise.

The fifth month of the Sesotho year is **Ts'itoe** (December). During this time **ts'itoe** (grasshopper species) were seen and heard singing **ts'itoe! Ts'itoe!**

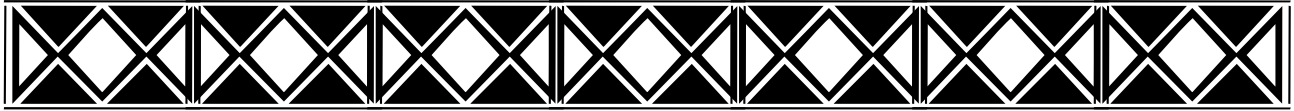
The sixth month of the Sesotho year is **Pherekhong** (January). This name comes from the verb **fera** (to put on the rafters of the roof) and **khong** (piece of dry wood). Around this time the crops, especially sorghum, have grown and bird-scarers start erecting shelters using wood in their fields.

The seventh month of the Sesotho month is **Hlakola** (February) when sorghum releases a white substance **molula** and the ears of the kafircorn are starting to come out. This is the time when the owners of the fields begin **ho upa** (to put charms or drugs in their fields) to drive away birds.

The eighth month of the Sesotho year is **Tlhakubele** (March). **Tlhaku** (grain) and **bele** (short form of **mabele**/sorghum). Around this time, sorghum grains are visible and birds start feeding on them. The bird-scarers now have a tough time chasing the birds away from the fields.

The ninth month of the Sesotho year is **'Mesa** (April). This is





when bird-scarers make fire to scare birds away from their fields. Herd-boys too made fire to roast maize. It is around this time that grasshoppers (small species) are out in great numbers and herd-boys hunt and add them to their roasted meal. This is where the proverb '*Mesa mohloane haa fanye*' (one who roasts small grasshopper must be alert lest it burns out) originated. It is during this month that *selemela se setona* (the star achernar) is seen and *selemela se sets'ehali* (Pleiades) disappears.

The tenth month of the Sesotho year is *Mots'eanong* (May). *Mo-ts'eha* (one who laughs at), *nong* (bird). The sorghum is now hard and birds find it difficult to eat. So they say the sorghum is laughing at the birds. The bird-scarers also laugh at the birds and their difficult job comes to a stop. This is the beginning of the cold season and it is said that the great tailed widow bird shed its long, beautiful tail-feathers.

Other birds like white stock, swallow, black kite and Egyptian vulture escape the cold to other warmer parts of the world.

The eleventh month of the Sesotho year is *Phupjane* (June). This is from the verb '*fupa*' which means to hold back. The Basotho believe that nature is beginning to hold back life. As a result most of the plants turn yellowish brown and the seeds are ready for either harvest or to be dispersed.

The twelfth month of the Sesotho year is *Phupu* (July). At this time nature is completely taking hold of life. There is no sign of life at all - it is cold and plants look like they are dead.

The months of the year as interpreted by the Basotho, are an indication that they interacted closely with their environment and that they were aware of the changes that came during the course of the year. For their year to begin on the eighth month of

the calendar year is a clear indication that they considered themselves a part of the environment - their lives should be seen alongside lives of other living things.

Different names given to different animal species and to other natural phenomena, displays the close interaction and observation of nature by the indigenous Basotho. This indigenous knowledge of the Basotho could be used to know and to understand nature better. It could also be used to support scientific projects in the country.

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Environmental Education Association of Southern Africa
2003 Conference, Windhoek, Namibia
22 - 26 June 2003



Making 21 years of EEASA: EE's past, present and future

The 21st Annual Conference of the Environmental Education Association of Southern Africa is going to be organised by the Namibina Environmental Education Network and will have a focus on the diversity and development of EE over the past 21 years and looking at the future of diversity and development of EE. The objectives are to share, critically reflect and build upon our EE experiences; and to expose EE practitioners to others in the field of EE and environmental work throughout the SADC region.

For further information contact:
 Graeme Wilson, E-mail: neen@rf.org.na
 Tel: +264-61-211 721; Fax: +264-61-211 668

Lake Malawi National Park Saga

George Banda

Cape Maclear, within an eight square kilometer area on the southern tip of Lake Malawi peninsular, is surrounded by a National Park. This area has a growing population of more than 10 000. The people are chiefly dependent on fishing and other park resources for their daily livelihood as the poor soils cannot sustain agricultural activities. To meet the demand, fishing gear outlets have opened up and this in turn has led to the over-exploitation of fish resources. As a result animal protein deficiency is prevalent and very little income is generated in comparison to the past two decades. Generally there is gross poverty and malnutrition and as a result pressure is exerted on the protected area.

The government stepped in with policy aims to promote sustainability for resource use. This included socio-economic and nutritional improvement; resource protection; capacity building and institutional establishment.

The capacity building sector includes:

- job training in environmental education (EE) for the Park members and,
- training for Community Based Organisation (CBO) board members in the operation of the organisation

There is a total number of twelve



George Banda (centre) facilitating resource inventory and CBO are mapping.

staff members formally trained by Rhodes University in research and EE activities. Since 2000, the SADC EE Centre has trained four more members who are capable of handling various groups. Twenty-four teachers have also been trained to integrate EE subjects into their academic curriculum.

Several Natural Resource Committees have been formed under two CBOs and are facilitating registration. The CBOs have a legal constitution and as village institutions they are able to make their own by-laws to suit their environment. Board members for these CBOs have already carried out a resource inventory and mapped out their area using GPS. They have been provided with training in basic accountancy and management through training workshops and have also been given some exposure to case study areas within the country. Local leaders were taken to Zimbabwe and Botswana for training and where the Trust Concept has been

practiced for a long time.

One of the CBOs (Chembe Trust) has received funding from a private donor for an irrigation project. They have also submitted proposals to various donors for the other projects such as Income Generated Activity type.

As the HIV pandemic continues to trip off productive members from the community, proposals have also been made to include AIDS related activities into the Trust Programme. So far there are several Village Natural Resource and AIDS committees formed which will fall under the Trusts. All these institutions are being facilitated by the EEC at the Park.

The Trust area also has a potential for tourism development. The CBOs and the Department are already coming up with some strategies on how the benefits would be shared once Trusts are fully established. This is to enable the community to realise the maximum benefit and participate strongly in resources protection for their sustainability. It is therefore expected that the social welfare for this community will improve in due course.

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The Evolution of Environmental Education at Munda Wanga Environmental Park

Emma Stone

In 1950 a gentleman named Ralph Sander founded a botanical garden that was destined to become the showpiece of Lusaka, the capital city of Zambia. At the time, he was a colonial civil servant working for the department of Game and Tsetse Control and he called his garden *Munda Wanga*, which means "My Garden" in Nyanja (one of the many national dialects). He gained an enviable reputation as a botanist and was responsible for the establishment of many of the parks, gardens, and tree-lined avenues in Lusaka. An article written about him entitled the 'Gardener of Chilanga' was published in a 1966 edition of Readers Digest. Sadly, after 28 years of work he died in 1978 having sold the estate to the Government.

At the time the economy of Zambia was booming and with the assistance of government grants, Munda Wanga Gardens prospered and were eventually enlarged to contain a zoo (now referred to as the Wildlife Park and Sanctuary), which displayed both indigenous and exotic species. A number of exotic species were brought to Zambia via the Chipperfield circus and were donated to the President who passed them on to Munda Wanga. These included a number of Tigers, American Black Bear and Axis Deer, many



Ralph Sanders - the original founder of Munda Wanga Botanical Gardens.

of which still reside at the park today.

Regrettably the Government grants could not be sustained and the estate passed through many governmental and parastatal hands. Without proper management and capital, the facilities declined. Munda Wanga sadly became a horror story with many of the animals starving in their cages. Those which survived did so only through kind donations and support of local interested parties.

After many years of neglect a new organisation was formed, The Munda Wanga Trust. The Trust took over the management of the Park and in 1998 Munda Wanga became known as Munda Wanga Environmental Park. This encompassed a Wildlife Park, Sanctuary and Botanical Gardens. Today the park is undergoing a complete

rehabilitation programme, with new enclosures being built and endangered species breeding and release programmes are well under way.

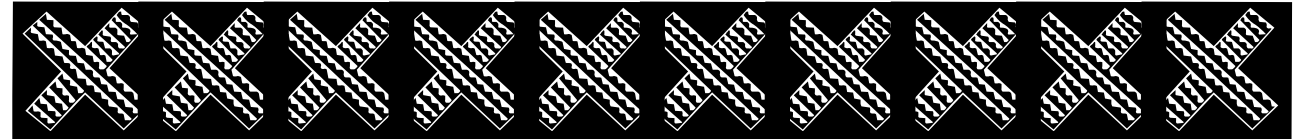
After two years of rehabilitation it was obvious that with over 55 percent of visitors comprising of children in school groups, there was a need for some form of educational activities at Munda Wanga. In 2000 I was tasked with developing a park based environmental education (EE) programme and Interpretation Centre. I have to say I was somewhat daunted by the bus and literally truck loads of children arriving at Munda Wanga on a daily basis. So the first task was deciding what and how I was to do this. I decided to focus on networking as the starting point. Perhaps at first I naively assumed there would be a paucity of EE practitioners within Zambia. However, to my surprise, I was happy to find a number of Educators working on private and government funded projects throughout the country. Here I could tap in to the wealth of experience of developing educational programmes within the Zambian context.

I started with a workshop, for which I managed to find funding from local companies. The workshop was aimed, firstly at introducing EE practitioners to the developing EE programme at

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Munda Wanga and secondly as a brainstorming session for the development of the programme. This was a good start, I gained a lot of valuable contacts and ideas to work with. This was followed up with visits to local schools around the city, gaining support for and interest in the programmes.

The next priority was to gain funds. I developed a project proposal which was sent to as many potential local and international sponsors as possible. Internationally I approached as many Zoo's and Wildlife parks as possible gaining opportunities for assistance with both development of materials and funding of the programme. A number were very helpful especially Chester Zoo (UK), Bronx Zoo (USA) and Columbus Zoo (USA).



Lion enclosure at Munda Wanga encourages conversation about predator/prey relationships.

With the assistance of volunteers we also held a number of fundraising events, which raised

a healthy sum of cash. Having no classroom or educational facility within the park, I decided to start developing the education centre. It is hoped that the centre will provide holistic environmental information for all ages, bringing the botanical, wildlife and cultural factors together. A number of topics which were highlighted during the first workshop were chosen to be covered within the Interpretation Centre. These included habitats of Zambia, endangered species and cultural aspects of the changing environment.

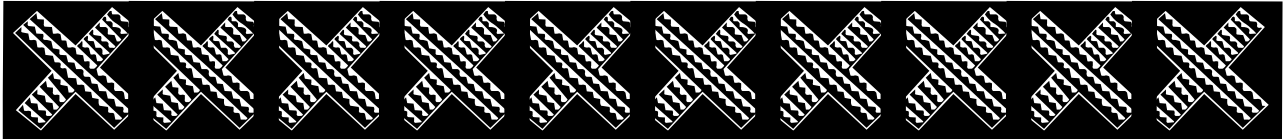
As is the theme throughout Munda Wanga we decided to use what we already have - the old concrete lion cage. It was decided that this concrete building would be a fantastic location for the Education Centre, giving the public a feel of what it would have been like living behind bars. Using the old holding cages around the main room, we decided to create habitat zones which would reflect those found within Zambia. As well as habitat rooms, the building will house the education office, classrooms and a resource library. Having gained sponsorship from sign printers, I started developing interpretative displays and hired a crew to commence the structural renovations of the building. Work was finally underway.

During this time hundreds of visitors continued to spill through our gates and with only one member of educational staff (me!) it was difficult to cope with the school groups, never mind



Exhibits designed by the education department at Munda Wanga.

develop activities to conduct with them. It was clear that the next priority was to hire a full time Zambian educator as well as develop the educational capacity of our existing staff. Again making use of whatever resources we already had, I commenced a training programme for our security guards and some gardeners who could be free to do some interpretative guiding and assist during the busy periods. This worked well as some members of staff rose to the challenge. Through our links with Chester Zoo (UK) we were also able to gain their support. Members of the Educational Staff at Chester conducted some training at Munda Wanga and provided guidance and assistance with the developing interpretative programme. In follow up to the in-house training I was also able to send Besa Kaoma, one of the gardeners who showed great EE potential, on a three month Tour Guide Training Certificate run by the Ministry of Tourism. We have also



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secured a scholarship from Southern Africa Development Community Regional Environmental Education Programme (SADC REEP) for Diana Ngula, our full time Interpretative Guide, to attend a 2 week EE certificate course in South Africa. Slowly our educational capacity is growing.

During this time I was able to attend the second African Zoo and Reserve Educators Network (AZOREN) conference in Kenya, again thanks to support from Chester Zoo (UK). This proved to be a blessing in disguise. The conference was attended by delegates from all over Africa, many of which were in the same situation as myself and facing the same challenges. I was able to share my experience with them and thrash out ideas concerning the challenges.

It was obvious that for people like myself working in developing countries with little access to resources, books, and the internet, networking was perhaps the most important

source of training and learning. The benefits of networking also come in the form of training support and funding. Through my meeting with Tom Naiman from the Bronx Zoo (USA) I was able to gain their support for Munda Wanga. With funding sourced from the American Zoo and Aquaria Association (AZA), the Bronx are planning to conduct training workshops based at Munda Wanga, develop educational materials and jointly with Chester Zoo (UK), fund the salary of a full time Zambian Educator. This was the boost that the education programme needed as, with training and an educator, we can finally start to achieve our goals as an educational institution.

As we are slowly developing Munda Wanga is getting more and more involved in the development of national EE activities. We have commenced an outreach programme sponsored by Toyota Zambia, through which we are able to bring underprivileged groups from all over to Munda Wanga

for educational activities.

Since 2001 I have been working on a steering committee alongside seven other educators from various projects including the Environmental Council of Zambia (ECZ) and WWF.

In the last year we have successfully created the first and only EE networking organisation within Zambia, the Zambia Network of Environmental Educators and Practitioners (ZANEPP).

On 14th December Munda Wanga was proud to host the first Annual General Meeting (AGM) and official launch of the network, which was opened by the Director of the Zambian Wildlife Authority (ZAWA) and the Deputy Minister of the Environment. The Launch was a great success with over 35 delegates in attendance and over 40 new members registered during the AGM. During the AGM, I was elected as Vice President of the network, which is a great privilege for both myself and Munda Wanga, as we will continue to play an active role in the development of EE in Zambia.

This day will be a great step in the evolution of EE at Munda Wanga, demonstrating that we have made some headway in turning a horror story into an educational resource for the benefit of the Zambian community.

I would like to thank all those



Munda Wanga's trained Interpretative guides explaining the nocturnal behaviour of our porcupines to a visiting school group.



Munda Wanga visits with local schools at the Lusaka Museum.

As always if anyone wishes to get involved, assist us in our endeavours, or simply to network and share ideas, I can be contacted at the following address.

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people and organisations who have contributed to the development of Munda Wanga's EE programme, namely: Bronx Zoo (USA), Columbus Zoo (USA), The British High Commission Zambia, Paignton Zoo (UK), Toyota

Zambia, Quentin Allen, Jersey Zoo (UK), Cheyenne Mountain Zoo (USA), Robin McLaughlin of San Diego Zoo (USA), Darcy King (USA) and especially Steve McKeown from Chester Zoo (UK).

WORLD PARKS CONGRESS

Benefits Beyond Boundries

8-17 September 2003, Durban, South Africa



This global event aims to discuss and debate issues of great concern for the protected area profession. Issues such as poverty, global change, sustainability and protected areas security are on the agenda.

Protected areas can play an essential role in the upliftment of communities and their livelihood. The challenge of the congress will be to demonstrate the importance of these areas and the relevance they have to economic, social and biophysical development in the world and 21st Century.

For further information visit <http://www.iucn.org/wpac/>
or e-mail: parks@iucn.org





Conserve our Changing Environment

Sinyama Chrispin

The Environmental Conservation Exhibition successfully took place at Lusaka Nation Museum with the opening day being graced by the Minister of Education, Mr. Andrew Mulenga whose speech was read on his behalf by the Assistant Secretary for Policy Affairs – Ministry of Education, Mr. Boniface Mbuji.



Sinyama Chrispin.

The topic for the theme of this exhibition was that of Environmental Education, which is found in the new curriculum, Basic for Schools.

The exhibition brought together other network partners external to the Ministry of Education. These included Environment Council of Zambia (ECZ), Munda Wanga Botanical Gardens, Environmental Youth Era (EYE), and WWF Zambia Environment Programme (ZEP). Stands were allocated to these organisations to exhibited their works.

It is hoped that the on-going educational process can be further strengthened through networking with other Environmental Education Stakeholders external to the Ministry of Education.

Apart from the network, a number of schools from Lusaka were also invited to the exhibition. Four of the invited schools set up stands displaying items made from recycled materials.

The concept of the exhibition was based on a similar initiative run in the Livingstone District. The exhibits that were produced in Livingstone were transposed to Lusaka to draw attention of the general public to the environmental activities in the schools in Livingstone. This was to show the value of education.

The exhibition included:

- project prepared by Livingstone schools: Particular attention was paid to the learning processes in preparing these exhibits. Environmental themes in this exhibition included, biodiversity, deforestation, pollution, waste management, soil erosion, global change, people and poverty, and health issues.
- stands from external partners and the Ministry of Education.
- projects on recycled materials: invited school pupils from Lusaka had a one-day workshop with the Educa-

tion Officer of the Lusaka Museum. A range of items from recycled materials were produced.

Aim for teachers to gain practical experience with the aspect of School Environmental Policies to:

- provide pupils and (their teachers) with a learning experience in Environmental Education
- further the initiatives in the schools, in particular the sets up of School Environmental Policies (SEP) and sensitise teachers and their pupils
- strengthen the network of EE school co-ordinators
- show the parents and the general public the issues at stake in environmental conservation in the region and create awareness about the conservation of the environment and protection of wildlife.

Expected Results and Processes

The exhibits were as result of environmental education processes in all of our district schools. In an ideal scenario:

- school co-ordinators organised the preparation of the exhibits as part of their learning programme. The preparation process provided a learning opportunity. Their teachers confronted pupils with the environmental issues



at stake in the district.

- pupils and their teachers shared their knowledge and observations about the change they could notice and expressed this conception in the form of an exhibit.
- a number of these concepts were later transformed into posters and models telling us about the environmental challenges we are facing today.
- the materials, which are exposed, will later be adapted to serve again as teaching aids.
- exhibition: Allowed communication with the general public. The media (ZNBC- National Television and Radio – reported on the main news, Times of Zambia reported it in the newspaper) covered the exhibition. This enabled the message to cover the whole country.

Verifiable Output

- exhibits
- source materials included in the exhibition
- manual type set of material on the set-up based on the experiences with this exhibition and the Livingstone one
- SEP logbooks for the co-ordinators from Livingstone who were invited to the exhibition
- the logbooks also have a record of the activities/ processes in the schools

Institutional Context

The EE pilot project was set up within the Teacher Education Department (TED, Ministry of Education – MoE) in conjunc-

tion with VVOB to look at the integration of EE in the primary curriculum.

Although the spread of the project is only planned for 2003, experiences have already been integrated at national level in the Primary Curriculum Framework (PCF - the EE part is based on the expertise gained in the Livingstone Project). Furthermore the project team supplies a number of “tools” which may help teachers to implement environmental activities in their schools. The materials and the expertise, which are gained, are exported to Zambia’s National institutions. Achievements include the already stated contribution to the Basic Curriculum Framework Document (CFD) and a number of programmes from the Teacher Education Department (TED) and Curriculum Development Centre (CDC) in Lusaka.

Conclusion

On the exhibition “Conserve our changing environment” you can see the results of classroom work of the pupils of the primary, basic, secondary and also community schools in Livingstone district. It also gives you an idea of the educational input by the teachers in the young generation in the district.

The posters and models on this exhibition are an expression of the children’s understanding of the environmental crisis as well as their concern over a changing environment in which life for man becomes more difficult. Pupils seem to realise that natural re-

sources are rapidly depleting and a clean, healthy and diverse environment is becoming a very scarce commodity.

The EE Pilot Project team wishes to thank all those that made the conservation exhibition a success. Notably is the SADC-REEP who supported us from the initial stages of the exhibition both financially and morally, VVOB and Mr. Luc Moens for having offered the much needed support, TED and in particular Mr. Edward Tindi for seeing that the guest of honour was present at the opening day, ECZ being the connection point between the EE Team and other EE practitioners, and lastly but not least all the partners that came to exhibit and share experiences, to you we say hats off!

We would like to thank Lusaka National Museum for having offered the venue. We thank Mrs Charity Salasini for her personal commitment and input towards the success of the event.

We hope that the conservation exhibition becomes an annual event. We therefore hope that those that didn’t exhibit, funds allowing, will be able to exhibit next year.

*Sinyama Chrispin an EE
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Using Interpretive Labels to Help Save Threatened Plants

A case study

John Roff

Many of Africa's plants are in danger of disappearing from their natural habitats, and in some cases are in danger of extinction. Simple nature interpretation techniques can be used to heighten awareness of these problems, and promote action that botanical garden visitors can take to help save these plants.

Lloyd Nkoloma, of Zomba Botanical Garden (ZBG) in Malawi, visited the Natal National Botanical Garden (NNBG) in Pietermaritzburg (South Africa) for a two week SABONET internship during

2002. His particular interests were interpretation and threatened plants. A successful interpretive technique now used in several National Botanical Gardens in South Africa is the use of interpretive plant labels, or 'interprelabels'.

(Refer to Box 1 for an example and explanation of the format of these labels)

After developing an initial interpretive plan for ZBG, Lloyd and I (interpretation coordinator, NBI) decided to use a modified interprelabel for

interpreting some of the threatened tree species growing in the Zomba garden. Eight labels were developed initially and these are in the process of being tested in the Zomba garden.

(Refer Box 2)

The process of developing the labels highlights the value of networking – Lloyd learned some useful techniques, and I discovered an effective design for bilingual signs.



John Roff and Lloyd Nkoloma with 'interprelabels' developed for the Zomba Botanical Garden.



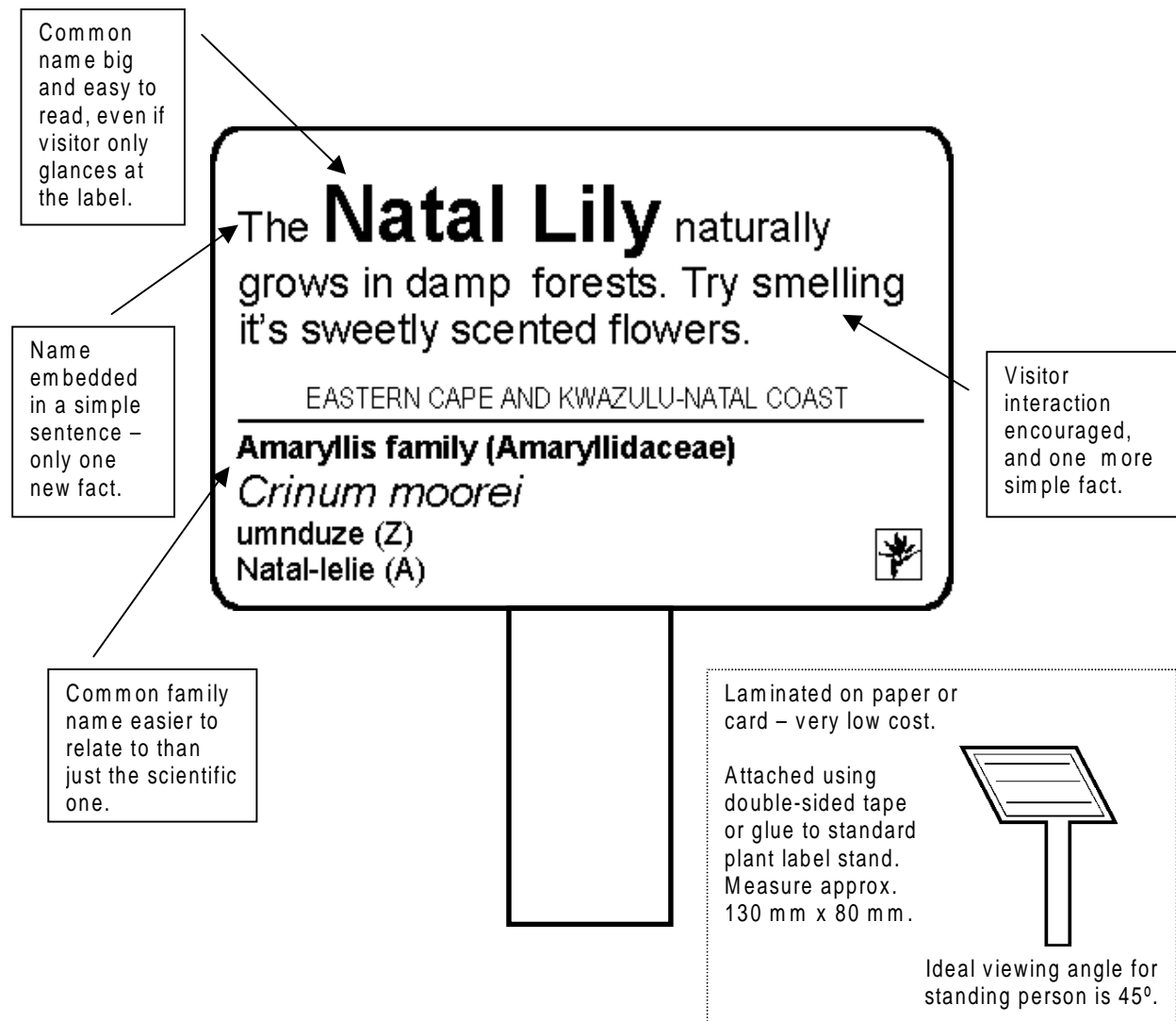
Box 1

The development of 'interprelabels'

Plant labels in botanical gardens have traditionally been limited to the scientific name, family name, common names and distribution. While this is valuable information, most visitors to gardens find it difficult to relate to these often unfamiliar words, and thus can find the plants and their often fascinating stories somewhat inaccessible. Since a major purpose of many of our gardens in Africa is an educational one, it seems necessary to look for ways in which plants and their stories can be made more accessible to more visitors.

After discussions and idea sharing with Mark Richardson of Alice Springs Desert Park in Australia, John Roff began experimenting with various plant label designs that were more interpretive than the traditional botanical garden labels. After extensive visitor trials, testing and suggestions from numerous colleagues, the format below emerged as being most easy to read and containing all the detail required by the various users of a garden. This format is being trialed in several gardens, and is being formally evaluated as part of a research project through the school of Environment and Development at the University of Natal.

'INTERPRELABEL' WITH EXPLANATION OF DESIGN FEATURES





Box 2

The **African plum** tree is very useful, supplying Malawi with timber, charcoal, and tasty fruit.

Plant a new tree for each one you use, to help future Malawians.

Mtengu wa **Masuku** umathandiza kwambiri kutiphatsa matabwa, makala ndi zipatso.

Dzalani mtengo umodzi pa wina uli wonse mwagwiritsa nchito, kuti muthandize a malawi ntsogolo.

Euphorbia Family (Euphorbiaceae)

Uapaca kirkiana

SOUTHERN AND CENTRAL AFRICA

Stand

'Interprelabel' for the Zomba botanical garden. These labels are printed on off-white paper (to reduce reflection) and laminated, then attached to a stand. They measure about 250 x 80 mm.

This article first appeared in SABONET news.

John Roff is the Co-ordinator of Interpretation at the National Botanical Institute and may be contacted at, P.O. Box 21667,

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interpret@telkomsa.net



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TRAINING OPTIONS



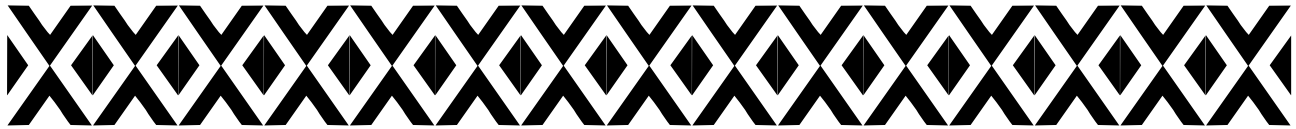
WILDLIFE AND ENVIRONMENT SOCIETY OF SA
People caring for the Earth

Attachment Programme in 2003

This programme consists of a four day environmental educators course which gives the participants the opportunity to work with a number of fieldwork techniques and the theory behind their use as well as a wide variety of education learning support materials.

Following that participants spend the next two days looking, in more detail, at the ideas and theories that underline our environmental education practice. The last four days are dedicated to working on a project of the participant's choice. The entire ten-day period is built on the premise that environmental education practitioners have much to contribute to environmental education processes in the SADC region.

Where and When: Twinstreams 8-17 July 2003 and Umgeni Valley Project 23 September - 2 October 2003
Contact: Elizabeth Martens emartens@futurenet.co.za



*Southern African Journal of Environmental Education,
Ethics and Action*

2003 Edition: 'Policy in Practice'

Call for Papers

The past years have seen major changes in environmental policy making in the SADC Region. In 1997 the SADC Regional Environmental Education Programme was established to support the development and implementation of environmental education policy and practice in the southern African region. Since then, the World Summit on Sustainable Development focused the world's attention on the way in which environmental policies are playing out in the field, some of the ethical dilemma's associated with environmental policies at global and national level; particularly as these became visible in the southern African context. Attention was also given to the need to give further attention to the re-orientation of education policy and practice towards sustainability. This is currently receiving international attention through the recently proposed United Nations Decade of Education for Sustainable Development, which will start in 2004, pending discussions in the United Nations General Assembly.

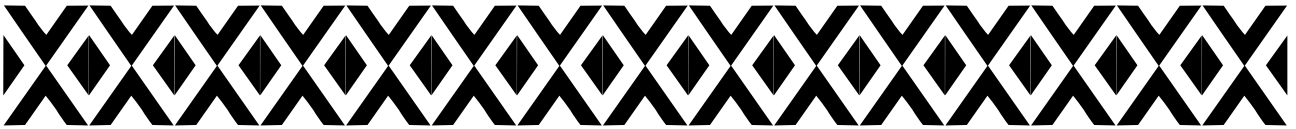
A number of initiatives have been taking place in southern Africa, to develop and establish environmental education policy. Southern African citizens have also started questioning some of the ethical issues and dilemmas associated with environmental policy making (for example the debates surrounding CITES). This edition of the EEASA Journal seeks to focus on what is really going on with 'Policy in Practice'. The journal does not seek to oppositionalise policy and practice by seeing them as two different and distinct processes; but rather to seek out the complex realities and ambiguities that lie within the nexus of 'Policy in Practice'. The journal seeks to raise critical debate; particularly relating to environmental education policy; the ethics of environmental policy making and focus attention on implementation issues associated with policy in practice. Issues associated with 'Policy in Practice' can play out in different contexts, notably the context of influence; the context of policy text production; and the context of practice. All of these are sites of contestation and ambiguity. Authors are invited to submit contributions that address any or all of the above areas of 'Policy in Practice'.

Queries and Submissions should be sent to:

The Editor: EEASA Journal
Murray & Roberts Chair of Environmental Education
Rhodes University
PO Box 94
Grahamstown, 6140
SOUTH AFRICA
E-mail: eeunit@ru.ac.za

Please contact the EEASA Journal Editor for a set of 'Guidelines for Submission', before you produce your paper. All papers will be reviewed by an international review panel.

Deadline for 2003 Edition: 15 May 2003



Rhodes University SADC International Certificate Course in Environmental Education

South Africa

01 September - 25 October 2003

The course is participatory and requires a high level of involvement and commitment from all participants. It is suitable for those with a professional interest in working in environmental education. The course curriculum will be negotiated around four themes:



- ✧ The Environmental Crisis: Issues and Risks
- ✧ Emerging Responses to the Environmental Crisis
- ✧ Environmental Education Methods and Processes
- ✧ Curriculum, Project and Resource Development

Enquiries: Contact Elizabeth Martens
Tel: +27-33-330 3931 Fax: +27-33-330 4576
E-mail: emartens@futurenet.co.za



Closing date for applications: 27 March 2003

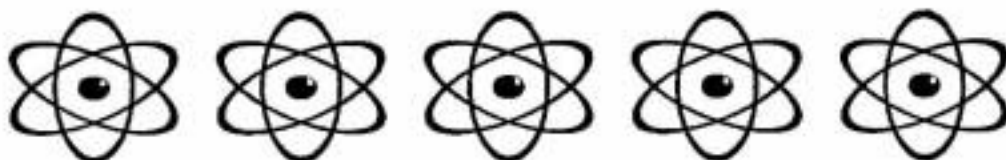


GASAT 11

International Conference on Gender and Science and Technology (GASAT),
Mauritius 6-11 July 2003

The GASAT Association is an international association of people concerned with issues arising from interactions between gender and science and technology. Conferences are held every two-three years and are central in establishing strong and influential networks of individuals and organisations that are engaged in research and grassroots activities with a view to promoting gender equity in science and technology.

For further details contact:
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Rduit, Mauritius
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Environmental Education Processes in Formal Education

The 2003 Swedish/South African course

Alistair Chadwick

This year sees the third “Environmental Education Processes in Formal Education” course being conducted in Sweden and in South Africa. And this time around, it has attracted fifteen participants from the SADC region, all of whom are involved in the formal education sector in one way or another, either as school inspectors or curriculum designers or school principals, etc.

This five-week course is based on the recognition that course presenters and course participants work in diverse contexts and can bring a wealth of experience to the course, the first three weeks of which are in Sweden (during April) and the last two of which are in South Africa (at the beginning of June).

There is also the recognition that as the first part of the course is based in Sweden it is important for participants to make the most of the expertise available in this country. With these thoughts in mind and having gone through the applications in detail, the course developers have designed the programme to provide the following teaching and learning opportunities, while in Sweden, grouped under the three following themes:

In Sweden:

Theme 1: Environmental Risks, Issues and Emerging Responses

During this part of the course participants have the opportunity to develop a deeper understanding of environmental issues and risks. Water is used as a focus for exploring the different dimensions of environmental issues. Participants also work together to develop a more complex understanding of key concepts including; sustainability, development, education, curriculum and discourse. These concepts enable participants to examine a range of responses (focusing on responses associated with formal education) from a more informed position.

Theme 2: Environmental Education as an Emerging Response

In this theme the focus is on a wide range of diverse environmental education processes. Participants have the opportunity to study and work with a range of environmental education methods in many different contexts, including two days of visit to a Swedish school. In working with these methods participants are encouraged to reflect on the assumptions and theories that underpin particular methods and to review their own practices in the light of these

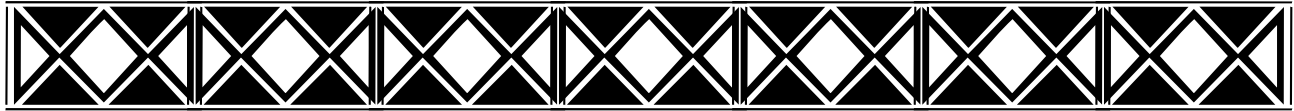
understandings.

Theme 3: Curriculum Development, Programme Development and Materials Development for Environmental Education

In this theme the focus is on policy, curricula, programmes and materials in environmental education. Throughout the course participants visit different places and have an opportunity to find out about how curricula, programmes and resource materials are developed and implemented/used. An important part of the course is the development of a needed curriculum, programme and/or resource in the participant’s workplace. Participants start working on this assignment in Sweden but the bulk of this work takes place in their work places and during the time at the Regional EE Centre in South Africa.

The course curriculum has a critical, open-process orientation, which means that participants are required to engage critically with different dimensions of the above themes.

To enable maximum participation in the course, and to adhere to a key principle of this course in which course participants and developers/tutors view themselves as *learners and*



educators, the aim is to create opportunities for participants to share their extensive experience with the rest of the group. To this end participants are requested to prepare a paper and short presentation on a certain topic. The presentations are part of appropriate sessions during the course and fulfil the vital function of giving a southern African, as well as Chinese, perspective to the Swedish component of the course. Experience has shown that course participants and presenters draw on and interact around the ideas expressed in these projects and the more rigorous the preparation the more meaningful the interaction tends to be.

In South Africa, June 2003

Having outlined the above 'Swedish' component of the course, it remains to be said that it was recognized from an early stage that it would be important to compliment the first three weeks of learning in Sweden with the above mentioned grounded project in the context of southern African. In order to better support this project participants on the course spend two weeks at the EE Centre in South Africa. During their stay at the Centre they have an opportunity to draw on the numerous resources (people, places and publications) available at the Umgeni Valley Nature Reserve. In addition key resource persons are invited to

work with the participants. The facilities available at the Regional EE Centre (including a computer centre, printing and collating machines and meeting rooms) are conducive to working together to produce tangible EE learning support materials and programmes. Throughout the visit, Centre staff will also work with participants to develop funding proposals for the continued support of EE processes in formal education at a country level.

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AZOREN 2003

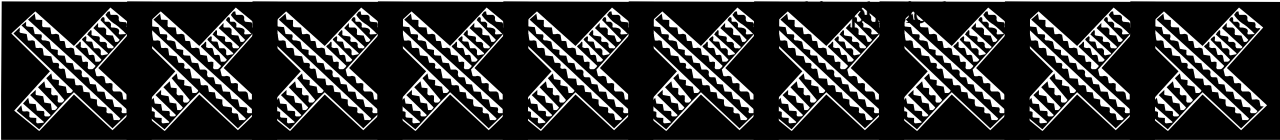


3rd International Conference of the African Zoo and Reserve Educators Network (AZOREN)
Zambia 8-11 September 2003

AZOREN is the African wing of the Association of International Zoo Educators (IZE) and brings together education practitioners working in Zoos, Parks, Reserves, Sanctuaries and Aquariums across Africa to 'enhance the understanding of conservation issues and to share information on effective informal education methods'. This International Conference is aimed to provide an opportunity for exchanging knowledge, experience and ideas from all over Africa. The theme is "Practical Approaches to Environmental Education in Africa; Education on a Budget.

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Revised Schools and Sustainability Pack Offers Curriculum Support

Lausanne Olvitt

Since the mid 1990s, the *School Environmental Policy & Management Plan (SEP) Pack* has supported educators in developing a whole-school environmental policy. This year, Share-Net has updated the pack in line with the South African revised National Curriculum and the National Environmental Education Programme (NEEP).

The 2002 World Summit on Sustainable Development (WSSD) and the intended United Nations Decade for Education for Sustainable Development has highlighted the need for sustainable practices and lifestyles. Schools, as an integral part of all communities, have an important role to play in establishing and demonstrating sustainable alternatives, but many educators don't know where to start. By using the *Schools & Sustainability Pack* as a guiding framework, schools can integrate environmental learning into all areas of the curriculum as well as improve the management of their school grounds and use of resources.

The pack, renamed the *Schools & Sustainability Pack*, was revised jointly by Share-Net and the Rhodes University EE Unit, in consultation with several other environmental education practitioners from around the



country. It is hoped that (similar to the earlier *SEP Pack*) this *Schools & Sustainability Pack* will provide a guiding framework and inspiration for other regions to adapt and develop school policy materials.

The *Schools & Sustainability Pack* retains the general structure of the earlier *SEP Pack*. A set of coloured cardboard folders identify key themes / priority areas:

- The School Calendar
- Environmental Information & Community Knowledge
- School Grounds & Fieldwork
- Resource Use
- A Healthy Environment
- Clubs, Adventure & Cultural Activities
- Action Projects & Competitions

Easy-to-use audit sheets on each priority area guide learners and their educators to identify issues in their school or local community and respond to them through curriculum activities.

The *Schools & Sustainability Pack* contains a template to assist teachers in planning their environmental learning. This template requires consideration to be given to learning outcomes, assessment standards and the learning support materials that will be used.

The strong curriculum support offered by the *Schools & Sustainability Pack*, as well as its focus on active learning in the environment, make it an ideal framework to guide Eco-Schools. The international Eco-Schools initiative, currently being implemented in South Africa through the Wildlife & Environment Society of South Africa (WESSA) uses the *Schools & Sustainability Pack* as its "Eco-Schools Toolkit". By selecting a minimum of three priority areas and responding to these through the Curriculum, participating schools meet the Eco-School requirements.

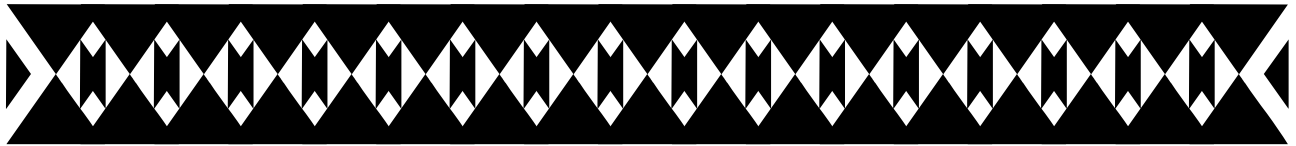
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The Assessment of an Environmental Education Centre in the Kruger National Park

Gherda Ferreira

Introduction

The activities performed at any environmental education centre is by and large based on, or related to, the existing environmental concerns. Throughout the world, the status and health of the biophysical or natural environment is determined, to a greater or lesser extent, by socio-economic and socio-political realities (Smuts 1995). This total environment, which involves interactions between the biophysical, the socio-economic and the socio-political components, is constantly changing. To remain sustainable, any changes which occur in the environment have to leave each component healthy. The task of environmental educators is not only to make people aware of these changes and their effects, but also to empower each citizen to take responsibility for the environment.

The apparently favourable conservation status enjoyed by some relatively small parts of South Africa, is no reflection of the situation with regard to the rest of the natural environment (Smuts 1995). Like the socio-economic component, parts of the natural environment are under severe pressure. The need to redress many socio-economic and socio-political problems of the past also affect the

biophysical environment and increases the pressure on this component. EE can play an important role to address the socio-economic and socio-political problems and so help to relieve pressure on the biophysical component of the environment.

EE and environmental education centres

The main emphasis of EE during the early days, was on conservation education and on ecology instruction and “*simplistic notions of attitude change through awareness creation so as to change behaviour*” (Shongwe 1997). Such views were based on the belief that the environment was in a crisis because ecosystems were at risk and that wildlife needed to be protected in nature reserves. The intention was to make people aware of the environment as a natural ecosystem yet the notion that EE could develop responsible behaviour through experiences in the wild, is considered to be a narrow view of environmental education mainly because it fails to address the demands of sustainable living. EE should encompass a broader approach to achieve education for sustainable living with minimum impact on the ecological environment.

As far as EE centres are concerned, the view of Shongwe (1997) who mentions that there is a gross lack of information on EE centres in South Africa, is supported. The information about programmes offered at the various centres and their effectiveness, is also inadequate. One criticism that has been raised against many centres is that they are inaccessible to their main clientele, because most of the centres are situated in nature reserves and are thus located far from major urban areas. In addition, many education officers at the centres do not have suitable teaching skills. Issues addressed are usually limited in scope and available opportunities to explore issues more widely, may not be realised.

Towards the end of 1997 there were approximately 55 EE centres in South Africa. These are situated in different parts of the country, some in urban areas and the majority in nature reserves in rural areas (Shongwe 1997). The centres have different affiliations. Some are sponsored by non-governmental organisations (NGOs), others are run by provincial nature reserves or by the South African National Parks (SANP), by education departments or by town councils and municipalities. The centre under scrutiny falls under the auspices

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of the SANP and is situated in Letaba Restcamp in the Kruger National Park. During 2000 and 2001 the general approach to EE at the centre was assessed.

The Letaba Goldfields EE Centre

The Letaba region is known as the home of the elephants in the Park. The Centre at Letaba introduces aspects of the elephant conservation programme to the public through a permanent exhibition reflecting aspects of elephant life. The tusks of six of the so-called "magnificent seven" are also on display. Various projects with diverse aims were offered prior to the restructuring of the SANP in 1997. According to Kalwa (1993:31) some of the aims of the projects were to:

- * cultivate environmental awareness amongst members of the public;
- * make a visit to the Park fruitful and enriching;
- * ensure the future of the national parks;
- * to improve the image of the South African National Parks.

In an attempt to achieve the above-mentioned aims, holiday programmes that were very popular with visitors, were offered. These programmes included lectures and video shows. The most important contributions however were the EE courses that were offered during which the principles of sustainable utilisation were addressed. Staff were also involved in presenting courses for

school learners and students (Kalwa 1993).

An investigation of the programmes, activities and philosophy of the centre was undertaken to determine what the current aims of the EE centre are; whether or not they coincide with those of the previous dispensation and whether any of the aims have been achieved.

Methodology

The case study, as a qualitative research design (Leedy 1997), was used in this particular investigation. The intention initially was to assess the programmes run by the Letaba Goldfields EE Centre within a twelve month period, in 2000. This period was, however, extended to 18 months. The reason for the extended period was due to a staff change in the management of the Centre. To give a fair assessment of the Centre at this particular moment, the new staff had to be given adequate time to implement their envisaged plans.

Unstructured interviews formed the crux of the investigation. Three staff members who offered programmes during 2000/2001 were interviewed. Notes were made directly after interviews. Questions covered various aspects such as whether all aspects of the environment are considered; whether an interdisciplinary approach was followed and whether learners were actively involved in problem solving (Opie 1990). An attempt was made to

determine whether the focus was relevant to current and potential environmental issues and whether presenters use proper starting activities to set the scene. Questions were also raised as to which teaching methods are used and how presenters handle various groups.

Results and discussion

Prior to the restructuring in the Park in 1997, the main emphasis of EE had been on interpretation and, according to the staff at the Centre, EE still concentrates on conservation education and ecology instruction. Even though the main focus had supposedly changed to recognise ecological, cultural and economic issues, the display at the centre does not reflect this change.

At present the facility serves as an elephant museum, focussing on the history of elephants and not on current relevant information such as the Park's policy on elephant management and research programmes linked to this, let alone cultural and economic issues. The link between people participation and conservation is not addressed in the display. Financial restraints appear to be the main reason for this inadequacy.

The transformation plan of Social Ecology apparently concentrates on the previously disadvantaged communities living along the borders of the Park and attempts to seek and facilitate partnerships that are beneficial to both. Mention was made by one interviewee that the Centre



should initially have focussed more on the staff in the Park than on neighbouring communities as many employees still do not comprehend the benefits of conservation or of sustainable utilisation.

All interviewees stated that ideally programmes offered at the centre should be hands-on and geared for learners. The point was made that EE for adult visitors should differ from that for children. Children would apparently benefit more if they could be taken on walks with qualified guides, but at present only adults are allowed on guided walks. A further suggestion made by the interviewees was the provision of computer facilities with touch-screens in the Centre. The existing facilities are however, inadequate as the auditorium is too small and, because of the accommodation costs at the rest camp, no overnight facilities are available for school groups. If funding could be made available, these facilities should preferably be built outside the perimeters of the rest camp to introduce learners to the natural environment. The auditorium is used as a temporary classroom, but it would be more ideal if most of the activities could be performed outdoors in a safe and secure environment.

School groups from local communities have only been visiting the centre for the past four years, and because the approach to EE does not differ markedly from that of previous interpretive officers, the training

of staff is a priority that could contribute to change. College and university students also visit the centre, but some of the staff at the centre are not adequately trained and are therefore neither equipped nor confident enough to work with these students.

During on-site observations, it was noted that Share-Net resources were occasionally used. Slides and video's are usually shown as many of the learners simply want to see the animals. Lecturing is the most commonly used teaching method, which is not ideal. Currently, EE at the Centre concentrates on careers in conservation and on associated job opportunities. Talks are also given on how mammals differ from each other and to this end, use is made of animal skulls housed in the Centre. Where possible, requests from teachers of visiting groups to cover content in school curricula, are considered. Environmental risks such as littering and pollution and how these influence the Park, are discussed, but the learners are passive and quickly lose interest. The effect of the risks that are of importance to the Park should be more relevant to learners and their communities and to facilitate awareness, teaching methods should be changed. The staff are of the opinion though that current environmental concerns are not fully addressed at the Centre as community problems are not necessarily moving with the trends. Each community bordering the Park has its own

unique situation that needs to be considered.

Most EE activities are done with school groups of up to 120 learners and approximately five accompanying teachers. The teachers are seldom keen to participate and do not help during the visit. There is usually only one staff member on duty at the Centre and because the size of the groups cannot be limited, the staff have to resort to lectures. The ideal would be to limit group size to 50 individuals and if more staff could be allocated to the Centre, to then form smaller, more manageable groups. At the moment the groups are too large, and the learners cannot be actively involved in a hands-on approach. The ideal would be to change this but, once again, staff would have to be trained and facilities would have to be improved.

Because of the lack of overnight facilities for school groups, the number of schools visiting the centre is limited. Only 58 school groups, with on average 70 learners per group, visited the centre during 2000/2001. The schools are mostly located in the immediate environs of the Park. Groups from further afield cannot be accommodated. The staff at the Centre were adamant that more could be achieved if learners were able stay overnight. Schools also encounter transport problems and according to the staff a sponsored "envirobus" had been provided which should help

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alleviate this problem, but the vehicle is used to convey workers and not for EE.

As far as the current role of the Park in environmental education is concerned, it appears as though more could be achieved. The staff that were interviewed claimed that the value of environmental education is not fully appreciated by all sectors within the Park. Staff involved in the various sectors, namely conservation, tourism and environmental education, have different mind sets. Not all are interested in all three fields, and many of the section (game) rangers for example, are not concerned about environmental education. In addition, it was mentioned on more than one occasion that visitors should not only be viewed as an important source of income, but should also be sensitised to the environment during their visits.

Environmental education has been viewed a means to bring about political and social change in South Africa. The staff at the Centre, however, view it as a stepping stone to change people's minds about the natural environment. They are of the opinion that the work initiated at the Centre should be taken further as in itself, it does not lead to major change. To promote interaction between people and the natural environment, it is important to zoom in on how people see things and consequently an attempt should be made to target those who merely visit the Park for relaxation and

try to stimulate environmental awareness, but especially to reiterate the value of the national park for all.

Conclusion

The primary task of EE centres in South Africa should be aimed at empowerment of people and sustainable utilisation of natural resources. Conservation education *per se*, is no longer considered adequate. However, from on-site observations and the interviews with staff, it is obvious that the Centre does not fully achieve what is intended. The programmes are based on learners' encounter with the natural environment and mainly focus on the animals in the Park and on conservation careers. Although this information may be of value to learners, the approach is not in accordance with current environmental education trends. Attempts should be made to address the purpose of conservation and sustainable development as well as the value of biodiversity for each citizen of the country. The likelihood exists that learners do not implement at home that which they learn at the Centre and the value of their visit as an empowerment exercise or even as a sensitising endeavour, is therefore questioned.

It is however, apparent that financial restraints, lack of staff and underqualified staff are the major contributory factors. Irrespective of the plans and ideals of the staff, the success of the Centre is dependent on factors their beyond individual

control. The management of the Park will have to concentrate on specific deficiencies and find the financial resources to rectify these problems and facilitate the achievement of their aspirations.

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EE EVENTS IN THE SADC REGION

2002 Swaziland/Rhodes University Course in EE ends

The certification and final national workshop for the Swaziland Participatory course in EE was recently conducted at Malalotja Nature Reserve. The course involved over 50 participants from different backgrounds and professionals working in the field of conservation.

The 2003 course gets underway in early February. Applications are welcomed from all those who are involved in EE processes. For more information, contact the Course Coordinator Steven Dlamini at the National Curriculum Centre on: +268-505 7855 or on e-mail at: sbdlamini20022002@yahoo.co.uk.

Mutare Teachers' College develops EE processes in Zimbabwe

The Mutare Teachers' College in Zimbabwe has recently organised a national workshop on the integration of environmental education processes into Secondary Teacher Training Colleges. The workshop whose theme was "Towards education for sustainability in Secondary Teacher Training" resolved that:

1. EE processes can be integrated into all subjects at the College.
2. College-based workshops are necessary so as to inform the rest of the lecturing staff.
3. Secondary school teachers have to be in-serviced in EE processes so that they may be knowledgeable and inform their practice and be able to assist student teachers on teaching practice.

Workshop on environmental reporting held in Zambia

This workshop was organised on January 20 in Lusaka and aimed to bring together environmental experts, media trainers, editors and environmental journalists to interact and exchange ideas on environmental reporting in order to enhance the effectiveness and acceptability of the manual by various intended users. The meeting was supported by the SADC Regional EE Programme in collaboration with Environmental Council of Zambia. The meeting brought together environmental experts, media trainers, editors and environmental journalists from different parts of the country. Participants exchanged ideas and made contributions towards the improvement of an environmental reporting manual.

Materials Development Workshop offered in Lesotho

A training workshop on materials development for staff from the National Curriculum Development Centre (NCDC) took place in Maseru, Lesotho from 11 to 13 February 2003. This workshop involved over 20 participants from NCDC and one from the Lesotho College of Education. The workshop was also attended by three 2002 SADC/Rhodes University course participants and facilitated by a 2002 Swedish/South African course participant and staff from the Regional EE Centre. The workshop was also supported by the Lesotho Environmental Education Support Project (LEESP).

During three days participants were exposed to the trends on materials development, challenges of developing and using learning support materials and worked on detailed plans for the development of their materials. A follow up workshop will take place in Lesotho from 8 to 10 April and the last one, focusing on the development of materials will be held in Howick, South Africa by May 2003. By the end of the workshops participants are expected to develop learning support materials relevant to their work context.



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RESOURCES

Bridging the gap – A handbook for environmental interpreters and educators

By John Roff (2003)

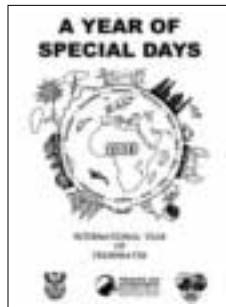
This concise handbook contains important principles and numerous activities for interpreting the environment. Especially useful for botanical garden educators and interpreters, it will also be helpful for nature guides, tour guides, museum staff and teachers. A list of principles of interpretation is given, as well as useful learning theories and a simple explanation of interpretive sign design. The cost of R10 makes it accessible to most practitioners in the field.

This booklet may be ordered from Share-Net,
P.O. Box 394, Howick, 3290,
South Africa
Email: sharenet@futurenet.co.za



A Year of Special Days 2003

This year's 'A Year of Special Days' booklet has taken on a new approach and look! More days have been added and the content has been revised and updated.



The main body of text provides information about the day, how it came about, some general information and what the day aims to achieve in terms of its' celebrations. By providing brief information about each day, the aim is to encourage learners and educators to find out further information about the day.

At the end of each page is a guiding question to encourage and enhance the thought process for activities that can be carried out to celebrate the day. There is also a useful contact to assist in finding out more about the day or what activities can be carried out to celebrate the environmental day.

This booklet can also be ordered through Share-Net.

A guide for environmental activists

The Ecological Youth of Angola has recently developed a version of 'A Year of Special Days' for Angolan environmental educators and media practitioners. This booklet is presented as a guide for environmental activist and presents information about global and local environmental issues and risks.

The framework in which the booklet is based on provides environmental activists with a number of guiding questions for environmental action taking and problem solving. It also provides information about each day and its relevance to educational practices in Angola.



Copies of this booklet (in Portuguese) can also be ordered through the Ecological Youth of Angola at jea@netangola.com.