

THE RELATIONSHIP BETWEEN THE DEVELOPMENT AND USE OF TEACHING AND LEARNING SUPPORT MATERIALS

The Case of "A Year of Special Days" Booklet

THESIS

Submitted in partial fulfilment of the requirements for the Degree of
MASTER OF EDUCATION
(Environmental Education)
At Rhodes University

SUPERVISOR

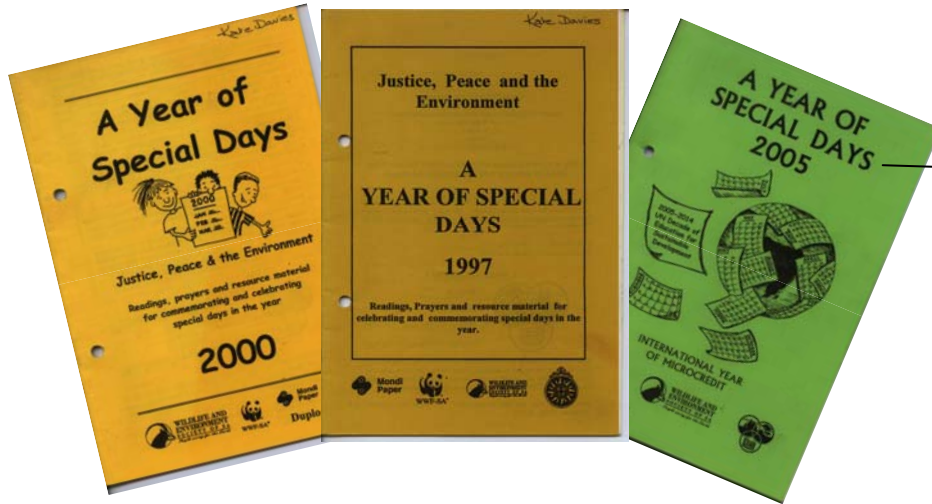
Professor Pat Irwin

By

Shepherd Urenje

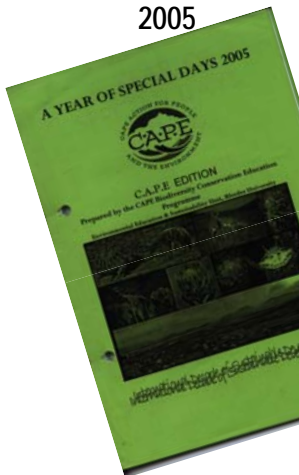
November 2005

A Year of Special Days

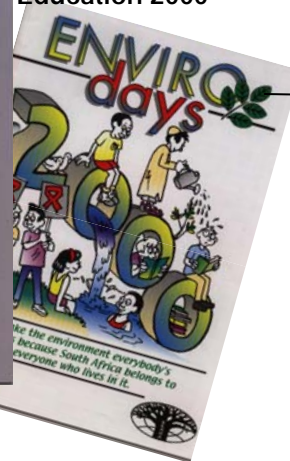


South African Editions
Three Examples

CAPE Edition
2005

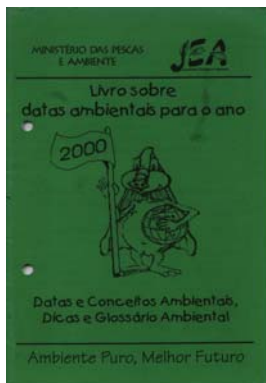


Ministry of
Education 2000

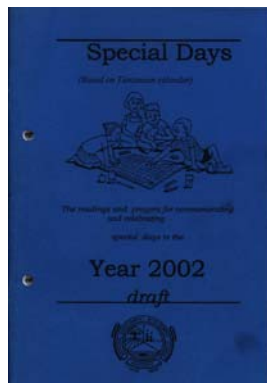


Three Adapted Editions from
South Africa

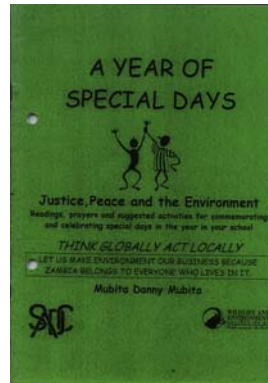
Durban Municipality
1997



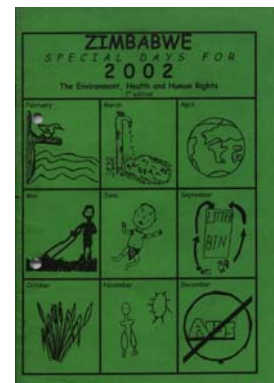
Angola 2000



Tanzania 2002



Zambia 2001

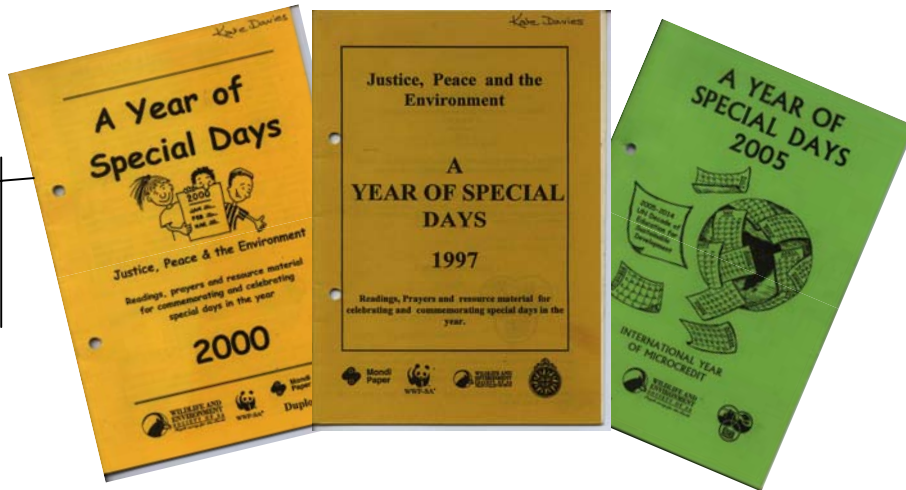


Zimbabwe 2002

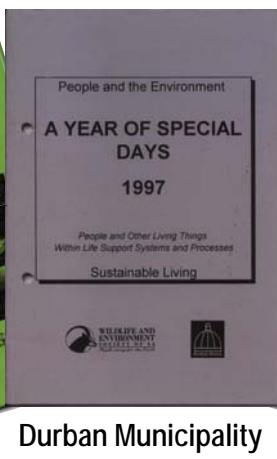
Four Adaptations from SADC countries

A Year of Special Days Editions

South African Editions
Three examples



CAPE Edition
2005



Durban Municipality
1997

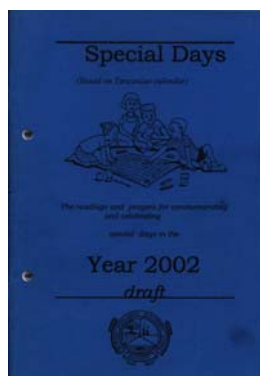


Ministry of
Education 2000

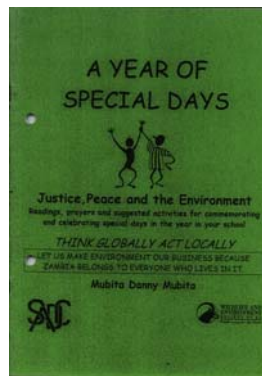
Three Adapted Editions from
South Africa



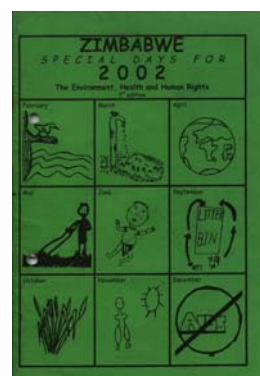
Angola 2000



Tanzania 2002



Zambia 2001



Zimbabwe 2002

Four Adaptations from SADC countries

ABSTRACT

This research is an interpretive case study, which investigated the relationship between the development and use of the teaching and learning support material, "*A Year of Special Days*". An in depth investigation was conducted in South Africa and Zimbabwe where developers and users of the booklet were asked to contribute their experiences with the booklet through questionnaires, semi-structured interviews and workshops. Developers contributed on the purpose for which the booklet was produced while the users explained how the booklet was being used in different contexts.

The research also tracked the development and use of booklet in the Southern African Development Community (SADC) region through a workshop held at the Environmental Education Association of Southern Africa (EEASA) Conference in Lusaka, Zambia, in May 2005. Some personal interviews and informal encounters with people who have used it in the past and those using it now were also conducted at EEASA.

This case study explored the axes of tension between the development and use of the resource material, "*A Year of Special Days*", with the view to informing development and use of materials at the SADC Centre. A long-term intention is to use the framework developed, for similar work in the wider SADC region. The research recommended on how the SADC Centre can track the relationship between the materials developed at the Centre and their use in different contexts.

The study established that the booklet "*A Year of Special Days*" was initially developed for informal education by faith communities mainly in the Anglican Church but turned out to be a resource more applicable for formal education mainly in the national school system of South Africa for environmental learning. That the resource material lacked effective monitoring support from the developers for the initial intended users where there was no formal education structure was an important link in materials development. It is important for resource materials developers to facilitate the participatory monitoring and evaluation of resource materials when they are in use

The study also established that SADC resources materials are easily adaptable and that the process of resource materials development offers important networking opportunities, which allow the adaptation and

adoption of similar resource materials for local contexts. The booklet was adapted and adopted by at least eight countries in the form of a booklet, a calendar or a poster.

This study provides some recommendations that may be used to guide the Southern African Development Community Regional Environmental Education Programme (REEP) to enhance processes in the development and adaptation of teaching and learning support materials by environmental educators in southern Africa.

ACKNOWLEDGEMENTS

I am most grateful to the Lord Almighty for guiding me through the gruelling process of putting this thesis together and I will always remember where to look for inspiration.

I am grateful to my family for bearing with me for the long periods of time that I was away from them especially when they needed me most.

I would also like to thank the SADC Regional Environmental Education Programme for allowing me the opportunity and support to pursue the Masters Degree programme at Rhodes University. I also want to thank my colleagues at SADC REEP for the encouragement and all the comments and contributions, which helped in shaping this study within my work context.

I am grateful to the Rhodes University Environmental Education Unit and in particular, am most grateful to Professor Pat Irwin whose critical eye, comments and guidance supervised this research. I also wish to recognise Professor Heila Lotz-Sistka, Professor Rob O'Donoghue and Ingrid Timmermans for their valuable advice and guidance

I acknowledge the support from the Mac Arthur Foundation for Peace and Social Justice, for financial support, which made the completion of this thesis possible.

I am grateful to the schools and organizations in South Africa, Zimbabwe and the SADC Region that contributed with information for making the research a success. I also acknowledge all the people who contributed in shaping this study particularly my colleagues in the M.Ed. Programme at Rhodes University and all the people contacted at the 2005 EEASA Conference.

DEDICATION

I dedicate this work to ...

The honourable memory of my late father Nelson Chmupunga Urenje who was not able to see the moment of completing this thesis

My loving mother Prisia Urenje for enduring without my support while I was away for a long time

My brothers and sisters for taking my place and covering for me

My wife and daughters for bearing with me

DECLARATION

I, the undersigned, hereby declare that the work contained in this dissertation is my own original work and has not previously in its entirety or in part been submitted at any university for a degree.

Signature:

Date:

TABLE OF CONTENTS

Chapter 1 – Introduction	1
1.1. Introduction	1
1.2. Context of the study	1
1.3. A Year of Special Days	3
1.4. Research question and goals	4
1.5. Research approach	5
1.6. Overview of chapters	6
1.7. Conclusion	7
Chapter 2 - Materials Development in the SADC Region	9
2.1. Introduction	9
2.2. History of SADC REEP	10
2.2.1. The Southern African Development Community	10
2.2.2. SADC Regional Indicative Strategic Development Plan	10
2.2.3. SADC Environment and Land Management Sector	11
2.2.4. SADC REEP	12
2.2.5. International commitments to environmental education	13
2.3. History of materials development at SADC REEP	15
2.3.1. Research findings	15
2.3.2. The attachment programme	16
2.3.3. SADC regional environmental education source books	16
2.4. Challenges associated with materials development	17
2.4.1. Development, distribution and use	17
2.4.2. RDDA and participatory approaches	18
2.4.3. Evaluation report 2005	19
2.4.4. Learner centred materials	20
2.5. Materials development at the SADC Centre	22

2.5.1.	Complexity and holistic response	22
2.5.2.	Categories of teaching and learning support materials	23
2.6.	Reflexivity	24
2.6.1.	Reflexivity at SADC REEP	24
2.6.2.	Application to southern African context	25
2.6.3.	SADC REEP responses to risk	26
2.7.	Tracking the development and use of materials	29
2.7.1.	The value of tracking	29
2.7.2.	What are we tracking?	30
2.8.	Research focus	31
2.8.1.	The case study booklet	31
2.8.2.	Intentionality	31
2.8.3.	Purpose of research	32
2.9.	Conclusion	32
 Chapter 3 – Research Design Decisions		 34
3.1.	Introduction	34
3.2.	Research methodology	34
3.2.1.	Theoretical framework	34
3.2.2.	Case study method	36
3.3.	Data generation techniques	37
3.3.1.	Keeping a research journal	38
3.3.2.	Questionnaires	38
3.3.3.	Semi-structured interviews	40
3.3.4.	Workshops	41
3.4.	Data Analysis	42
3.4.1.	Levels of data generation and analysis	42
3.4.2.	Analytical procedure	45
3.5.	Validity and trustworthiness	46
3.6.	Ethics	46
3.7.	Reflections	47

3.8.	Conclusion	48
------	------------	----

Chapter 4 – Unpacking Development and Use of the Resource Material:

	<i>A Year of Special Days</i>	49
4.1.	Introduction	49
4.2.	Data analysis	49
4.2.1.	A tracking profile	51
4.2.2.	Indications of use of the resource material	54
4.2.3.	Data categories	55
4.3.	Data Emerging from questionnaire responses:	57
4.3.1.	South Africa questionnaire response from Davies {(QR 01(a)}	57
4.3.2.	South Africa questionnaire response from Share-Net {(QR 01(b)}	59
4.3.3.	Zimbabwe questionnaire responses from developers (QR 01)	61
4.3.4.	South Africa questionnaire responses from schools (QR 02)	63
4.3.5.	Zimbabwe questionnaire response from users (QR 02)	65
4.4.	Data Emerging from interview responses (IR 02)	65
4.4.1.	South Africa interview response from Nottingham Combined School (IR 02)	66
4.4.2.	South Africa interview response from DELTA Environmental Centre; (IR 03)	68
4.4.3.	Zimbabwe interview responses from Environment Africa (IR 01)	70
4.4.4.	Zimbabwe interview response from Mrs. P Mushayi	71
4.4.5.	Zimbabwe interview response from STTEEP	71
4.5.	Data emerging from workshop responses (WR)	72
4.5.1.	EEASA workshop responses (WR 01)	72
4.5.2.	Zimbabwe workshop responses: (WR 02)	73
4.5.3.	Use of the booklet in practice	76
4.6.	The faith issue	78
4.7.	Summary of findings	80
4.8.	Conclusion	81

Chapter 5 – Discussion of Research Findings

5.1	Introduction	82
-----	--------------	----

5.2	Ideology of Materials development	82
5.2.1.	Theoretical background	82
5.2.2.	The RDDA method of materials development	83
5.2.3.	The rationale for participatory materials development	84
5.3.	The relationship between development and use of materials	87
5.3.1	Theory and practice	87
5.3.2.	A praxis vantage point	87
5.3.3.	Action and reflection	88
5.3.4.	Praxis and context	88
5.4.	Special features of the booklet as an example of resource material development	89
5.4.1.	Characteristic features of resource material development	89
5.4.2.	Responding to a range of situations	90
5.4.3.	Adoption and adaptation of materials	92
5.4.4.	Copyright issues	92
5.4.5.	Resource materials compliment networking	92
5.4.6.	Some concerns	94
5.5.	The actual use of materials in context	95
5.5.1.	The link between development and use	95
5.5.2.	Findings and context discussion	96
5.6.	Conclusion	96
 Chapter 6 – Summary and Recommendations		 98
6.1.	Introduction	98
6.2.	Summary of study	98
6.2.1.	Overview	98
6.2.2.	The relationship between the development and use of materials	100
6.2.3.	Lessons learnt	100
6.3.	Recommendations to enhance materials development	101
6.3.1.	Process recommendations	101
6.3.2.	Key issues to consider	102
6.3.3.	Recommendation for research	103

6.4.	Reflections on research methodology	104
6.5.	Conclusion	106
	REFERENCES	111
	PERSONAL COMMUNICATION	117

APPENDICES

APPENDIX 1 Questionnaire Responses (QR)	117
Questionnaire Response 01 a; Original Author (Davies, K) {QR 01 (a)}	117
Questionnaire Responses 01 b; South Africa Developers at Share – Net {QR 01 (b)}:	121
Questionnaire Responses 01 c; Developers in Zimbabwe & Angola {QR 01 (c)}	123
Questionnaire Responses 02; School Users (QR 02)	126
APPENDIX 2 Questionnaire Summaries (QS)	130
Questionnaire Summary 01 a; South African Developers {QS 01 (a)}	130
Questionnaire Summary 01 b; South Africa Users {QS 01 (b)}	131
Questionnaire Summary 02 a; Zimbabwe Developers {QS 02 (a)}	134
Questionnaire Summary 02 b; Zimbabwe Users {QS 02 (b)}	134
APPENDIX 3 Analytic Memo 01 (AM 01)	136
Analytic Memo 01 (from Questionnaire Summary 01 & 02)	136
APPENDIX 4 Interviews Responses (IR)	139
Interview Response 01; Zimbabwe (IR 01)	139
Interview Response 01 a - Environment Africa	139
Interview Response 01 b – A visit to Mapfuwa Village	140
Interview Response 01 c – Informal interviews with STTEEP	140
Interview Response 02 - 03; South Africa	142

Interview Response 02; Nottingham Road Combined School (IR 02)	142
Interview Response 03; DELTA Environmental Education Centre (IR 03)	147
Interview Response 04 Mauritius (IR 04)	150
APPENDIX 5 Interviews Summaries (IS)	151
Interview Summary 01; South Africa Users (IS 01)	151
South Africa Users NCS {S 01 (a)}	151
South Africa Users PR & AM {IS 01 (b)}	153
Interview Summary 02; Zimbabwe Users (IS 02)	154
Zimbabwe Users BM {IS 02 (a)}	154
Zimbabwe Users PM {IS 02 (b)}	155
Zimbabwe Users STTEEP {IS 02 (c)}	155
APPENDIX 6 Analytic Memo 02 (AM 02)	156
Analytic Memo 02 (AM 02) - from Interview Summary 01 & 02	156
APPENDIX 7 Workshops Responses (WR)	158
Workshop Response 01; EEASA Workshop in Lusaka – Zambia (WR 01)	158
Workshop Response 02; Curriculum Development Unit (CDU), Harare - Zimbabwe (WR 02)	159
APPENDIX 8: Workshop Summaries (WS)	163
Workshop Summary 01 a; EEASA Conference {WS 01 (a)}	163
Workshop Summary 01 b; Harare – Zimbabwe {WS 01 (b)}	164
APPENDIX 9: Analytic Memo 03 (AM 03)	166
Analytic Memo 03 (AM 03) from Workshop Summary 01 a & b	166
APPENDIX 10: Electronic Mail Circulation	168

LIST OF FIGURES AND TABLES

FIGURES

Figure 1.1	Map of the SADC region	2
Figure 2.1	Challenges for SADC countries	14
Figure 3.1	Levels of data generation and data analysis	43
Figure 4.1	Use of the booklet and calendar in southern Africa; June 2005	53
Figure 4.2	Tracking diagram illustrating who is using the booklet and or calendar	56
Figure 4.3	An illustration of different categories of use	77
Figure 5.1	My interpretation of how Davies developed the booklet	84

TABLES

Table 4.1	Levels of data analysis	51
Table 4.2.1	Emerging categories from Davies; (in theory) (QS 01 (a))	59
Table 4.2.2	Emerging categories from Share-Net; (in theory) {QS 01 (b)}	60
Table 4.2.3	Reasons for developing booklet; South Africa; (in theory) {QS 01 (b)}	61
Table 4.3	Zimbabwean developers adaptation; (in theory) (QS 02)	63
Table 4.4.1	South African users; schools; (in practice) (QS 02)	65
Table 4.4.2	Zimbabwean users; schools; (in practice) (QS 02)	65
Table 4.5.1	South African users; NCS; (in practice) (IS 01)	68
Table 4.5.2	South African users; DELTA; (in practice) (IS 01)	69
Table 4.6	Zimbabwean users; (in practice) (IS 02)	72
Table 4.7	Zimbabwe workshop data; (in practice) (AM 01)	73
Table 4.8	Zimbabwe workshop data; (in practice) (AM 01)	76

LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BOCONGO	Botswana Council of Non Governmental Organisations
CDN	Course Development Network
CDU	Curriculum Development Unit
DA	Data Analysis
Danida	Danish International Development Agency
DC	Data Categories
DG	Data Generation
DNR	Department of Natural Resources
DRC	Democratic Republic of Congo
E Africa	Environment Africa
EAP	Environmental Action Plan
EE	Environmental Education
EDN	Earth Day Network
EEASA	Environmental Education Association of Southern Africa
ELF	Environmental Liaison Forum
HIV	Human Immunodeficiency Virus
IUCN	World Conservation Union
JEA	Ecological Youth of Angola
MDG	Millennium Development Goal
MIT	Midlands Education Trust
NEEN	Namibian Environmental Education Network
NEEP-GET	National Environmental Education Project for General Education and Training (South Africa)
NEPAD	New Partnership for Africa's Development
NETCAB	Regional Networking and Capacity Building Project
NetRep	National Network Representative
NGO	Non Governmental Organisation

OAU	Organisation of African Unity
OBE	Outcome Based Education
PM&E	Participatory Monitoring and Evaluation
RD	Raw Data
RF	Research Findings
RDDA	Research Development Disseminate Adopt
REEC	Regional Environmental Education Centre
RISDP	Regional Indicative Strategic Development Plan
SADC	Southern African Development Community
SACC	South Africa Council of Churches
SADC-ELMS	SADC Environment and Land Management Sector (functions of SADC ELMS are now absorbed into the SADC Secretariat)
SADC REEC	SADC Regional Environmental Education Centre
SADC REEP	SADC Regional Environmental Education Programme
SADC-REES	SADC Regional Environmental Education Support
SADCC	Southern African Development Coordination Conference
SCOPE	Schools and Colleges Permaculture Programme
SEP	School Environmental Policy
Sida	Swedish International Development Cooperation Agency
STTEEP	Secondary Teacher Training Environmental Education Programme
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Education, Scientific and Cultural Organisation
WESSA	Wildlife and Environment Society of South Africa
WEZ	Wildlife and Environment Zimbabwe
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature

Chapter 1 – Introduction

1.1. Introduction

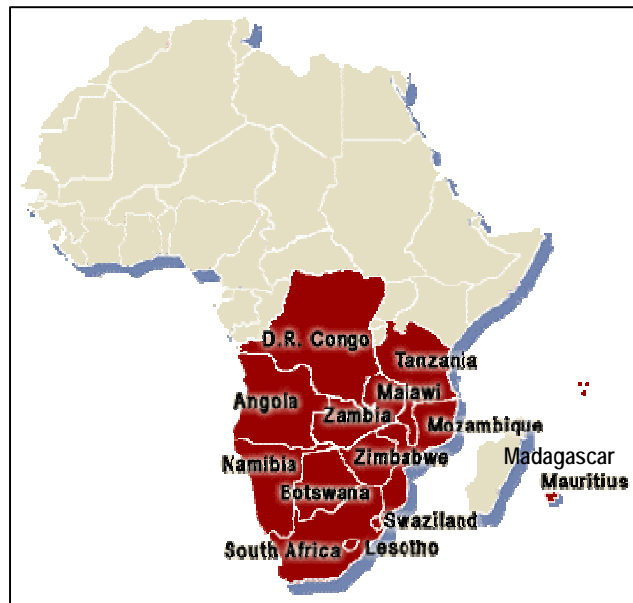
In this chapter I give an outline of the research study on the development and use of the teaching and learning support material, *A Year of Special Days*, in the context of the Southern African Development Community (SADC) Regional Environmental Education Programme (REEP). I present the context and background to this research and also briefly explain the rationale for the research. The research question and goals will also be discussed followed by an outline of the research approach. Finally, I give an overview of the remaining chapters of this study.

1.2. Context of the study

The Southern African Development Coordination Conference (SADCC) is the forerunner of the Southern African Development Community. It was formed in Lusaka, Zambia, on 1 April 1980 following the adoption of the Lusaka declaration, *Southern Africa: Towards Economic Liberation* by nine member states (Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe). At a meeting held in Windhoek on 17 August 1992, the Heads of States and Government signed a Treaty transforming the SADCC from a coordination conference into the SADC, emphasising the concept of the Community and this redefined the basis for cooperation among member states from a loose association into a legally binding agreement.

Of the 14 countries, nine (Botswana, Lesotho, Malawi, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe) are English speaking, three (the Democratic Republic of Congo, Mauritius and Madagascar) are French speaking, and two (Angola and Mozambique) are Portuguese speaking.

Figure 1.1 below shows the position of the 14 SADC countries. Madagascar is the latest member who joined the community in August 2005 at a Heads of States Summit in Gaborone, Botswana. This followed the withdrawal of the Seychelles (which had joined in 1992) in 2004 from the regional body.



Copyright ©2002 - 2004 SADC-REEP. All Rights Reserved

Figure: 1.1. The SADC region is composed of 14 countries.

The SADC REEP Environmental education (EE) programmes have been funded by the Swedish International Development Cooperation Agency (Sida) since July 1997. The purpose of the Regional Environmental Education Programme is to create an enabling environment for improved networking, enhanced resource material production and increased training capacity.

The SADC Regional Environmental Education Programme (SADC REEP) has worked with partners in developing materials which support training initiatives in southern Africa (SADC REEP, 2002). These materials include source books like *Developing Curriculum Frameworks* (see Lotz 1999), *Development, Adaptation and Use of Learning Support Materials* (see Russo & Lotz-Sisitka 2003) and *Enabling Environmental Education* (see SADC, 1999). At present the Programme, through the Course Development Network (CDN), is working on a regional 'Tool Kit' comprising four source books which will include Curriculum Development, Materials Development, Evaluation and Training of Tutors, to be used by environmental education practitioners in the region. The *Course Development Tool Kit* will be launched in November 2005.

The research focus of this study was a case study of the development and use of the teaching and learning material, *A Year of Special Days*. I hope to support the development of teaching and learning materials as

part of my work at the SADC REEP where I work with environmental educators from the SADC region on the development of resource materials. It is my hope that I will be able to unpack the relationship between the development and use of such teaching and learning support materials in order to improve on the work that the Programme is currently supporting.

Lotz-Sisitka and Raven have highlighted that there is need for research on the use of learning support materials in the context of professional development (Lotz-Sisitka & Raven, 2001). Russo and Lotz-Sisitka have further observed that, in learning support materials development, the consideration of how the materials are going to be used has often been neglected leading to the 'commercialisation' of learning support materials (Russo & Lotz-Sisitka, 2003). O'Donoghue and Russo elaborate on the same concern and note that educators involved in initiatives for developing and adapting learning support materials often do not discuss and reflect on how and where the new materials will be used and fail to recognise the context and environmental issues used (O'Donoghue & Russo, 2003). It is in the light of the above revelations that the research on the relationship between the development and use of teaching and learning support materials is being undertaken.

1.3. A Year of Special Days

I have conducted my research on a single case study of the SADC REEP learning support materials, the booklet, *A Year of Special Days*. This booklet has been adapted in several southern and eastern Africa countries (see Figure 4.1 section 4.2.1). The lessons learnt from the research will be used as a framework for similar work in resource materials development at the SADC REEC. I would like to put together recommendations for strengthening environmental education resource materials development within the SADC EE Programme.

The booklet was originally produced as a faith based resource material and has since changed to become a school or institutional year planner or calendar advising on special days for environmental learning, which combine national and United Nations (UN) declared special days. Since 1996, the booklet has been reproduced and adapted nine times in South Africa alone and has been translated into different languages elsewhere in southern Africa.

There has been a shift in the development of resource materials in southern Africa from Research Development Disseminate Adopt (RDDA) where the expert dictates the processes to participatory approaches (Russo, 2003). Examples of this shift can be identified at regional level where environmental education practitioners from eight SADC countries were involved in developing the book *Developing Curriculum Framework* compiled by Lotz in 1999.¹ Another shift has been experienced in the support for the development of resource materials, which has changed from regional level to national level. In his master's research conducted in 2003 Russo recommended the integration of processes of adaptive use of learning support materials (Russo, 2003).

1.4. Research question and goals

Following the discussion above, these factors have resulted in the emergence of two key questions:

1. To investigate why the book *A Year of Special Days* was developed?
2. To investigate how the book *A Year of Special Days* is being used for environmental education in southern Africa?

The question I am going to answer is therefore, ***what is the relationship between the development and use of the Teaching and Learning Support Material, A Year of Special Days?***

The goals of this research are to explore the axes of tension between the development and use of the resource material, *A Year of Special Days*, with the view to informing development and use of materials at the SADC Centre. This will involve:

- Unpacking the theory underpinning the development of a resource material such as the booklet, *A Year of Special Days*, as part of the wider context of resource materials development.
- Coming up with useful insights and recommendations for resource materials development and use of similar materials.
- Providing a framework for informing the development and use of resource materials so as to inform the tracking of the development and use of materials in southern Africa.

¹ In June 2005, 25 environmental educators from 11 countries in southern Africa spent five days at the SADC Centre in Howick revising the source book *Developing Curriculum Frameworks* which will be part of the Course *Development Tool Kit* which will be launched in November 2005.

A long-term intention is to use the framework developed for similar work in other SADC countries. I also hope to make recommendations on how the SADC Centre can track the relationship between the materials development at the Centre and their use in context.

1.5. Research approach

In order to achieve the above-mentioned goals, I decided to design the research as an interpretive case study, which took a qualitative approach. I have decided to work with this orientation in order to understand the relationship between the development and use of the resource material, *A Year of Special Days*. As an interpretive research study, I was interested in the meaning that people made as they developed the booklet on one hand and as it was used in practice on the other. As Terre-Blanche and Durrheim have noted, the meaning of human creation, words, actions and experiences can only be ascertained in relation to the context in which they occur (Terre-Blanche & Durrheim, 1999).

The interpretive orientation is preferred in this instance because it provides a framework for understanding the development of resource materials in southern Africa. Conole (1993) notes that interpretive orientation allows understanding of what is going on at least in the first instance through active involvement in the process of negotiated meaning. She goes on to argue for this orientation where the researcher can easily identify patterns of meaning which emerge and then generalise from them.

Questionnaires were used to generate information from the users of the resource material. In South Africa, they were distributed to 10 schools in the Midlands of KwaZulu-Natal. These questionnaires were designed to select a school, which is engaging with the booklet, which was then selected for the next in-depth data generation using interviews. Questionnaires were also used to generate data in Zimbabwe from developers of the Zimbabwean version of the booklet at *Action Magazine* and also the users of the booklet at a workshop which was being run for lecturers from secondary teachers training colleges.

One-to-one semi-structured interviews were used to generate data from environmental educators and other stakeholders such as people working in Non Governmental Organisations (NGOs). Also interviewed were the Share-Net staff that have seen the development of the booklet over the years and have been responsible for the annual updating of the South African version. Some of the data emerging from

interviews was used to inform the planning of the Environmental Education Association of Southern Africa (EEASA) workshop in Zambia and another one in Zimbabwe.

A workshop at the 2005 EEASA conference in Zambia managed to bring together eight environmental education practitioners from three countries in southern Africa to discuss how the booklet is being used outside South Africa. Workshops can play a vital role through data gathering, data analysis, data interpretation and reviewing of findings (Ashwell, 1997). According to Harlen *et al.* people contribute more effectively when actively involved in making sense of their realities and experiences (cited in Lotz, 1996). By using these workshops I was able to quickly and reliably explore the use of the booklet through group discussion. Another workshop was run in Zimbabwe for users in government and NGOs. McNaught and Raubenheimer (1991) recommend that workshops should be responsive to the participants, and that workshop strategies should achieve a balance between presentation of information and sufficient opportunities for interactive experience (Lotz, 1996).

In this research I was able to make the findings available to those involved in the research process to give them an opportunity to check the accuracy of the study. A draft of the research findings was also made available to all participants for them to check. Proper channels of communication were followed so as not to upset the way things are done at institutions. Where people's real names were used this was negotiated with them beforehand and where this was not possible, real names have not been used.

In terms of data analysis, the normal coding procedure was used to come up with categories of similar responses. In this way the data were then reduced to manageable levels, which were then summed up in common 'clusters' from the emerging themes.

1.6. Overview of chapters

In Chapter One I have presented an introduction to my study.

In Chapter Two I give a contextual background of how materials development is responding to environmental issues and risks as well as the literature that I have consulted which was relevant to my study and topic. I also look at other research studies, which have been done in the field of resource

materials development in southern Africa. I have therefore made sense of the research findings in the light of what has already been done in the field of materials development.

In Chapter Three I present a description of the research paradigm that I am working on, in this case an Interpretive Case Study, which was designed to take a qualitative approach. The chapter also outlines the three data generation techniques that I have used in order to understand the relationship between the development and use of the resource material.

Issues of ethics and trustworthiness are also discussed in this chapter. I finally present how the data was analysed and I share the process of establishing the categories and subcategories used to present the final findings in chapters Four and Five.

In Chapter Four I present the findings from data generated and the emerging data categories and sub-categories. I was able to track where the booklet is being used in southern Africa and also what it is being used for. I was therefore able to design a diagrammatic representation of the extent to which the booklet is being used in the region. I was also able to construct a diagram, which shows why the booklet was developed and how it is being used in the eight countries from which data was generated.

In Chapter Five I make sense of the data in terms of my research goals and question and the literature I have consulted. I give an outline of the main findings and the key threads that have been uncovered by the data presented in Chapter Four. I was also able to locate this discussion in the current debate on resource materials development.

In Chapter Six I give a summary of my main findings. I also assess the potential value of the study to the SADC REEP and southern Africa as a whole and my recommendations of what I think works well in the field of materials development.

1.7. Conclusion

This research acknowledges the important role that resource materials development is providing in complementing the other three SADC REEP components, namely, Networking, Training and Policy in

supporting environmental education processes in the SADC region. Also acknowledged is the need for a more effective relationship between the development and use of such teaching and learning support materials. The booklet is an ideal case as it has found its way into several countries in southern Africa where it is being used to support various environmental education processes.

Chapter 2 – Background of Materials Development in the SADC Region

2.1. Introduction

This chapter is an outline of the context and a brief history within which the research on the relationship between development and use of teaching and learning support materials is taking place in southern Africa. In order to develop a clear picture of this context, the background to the formation of the Southern African Development Community (SADC) and the setting up of the Regional Environmental Education Programme (REEP) has been articulated in the previous chapter.

The main focus of this chapter is an examination of how the SADC REEP is responding to environmental issues and risks through the development and use of materials. It also looks at the contextual influences and development perspectives in professional development and capacity building for environmental education practitioners in southern Africa. The relationship between the development and use of teaching and learning support materials in southern Africa seems to have been shaped by the following key developments:

- ❑ The history of the Southern African Development Community Regional Environmental Education Programme (2.1)
- ❑ SADC REEP's commitments to international agreements (2.2)
- ❑ The history of materials development in the SADC Region (2.3)
- ❑ Challenges of materials development (2.4)
- ❑ The relationship between development and use of materials in the SADC Region (2.5)
- ❑ Materials development at the SADC Centre (2.6)
- ❑ Tracking of teaching and learning materials in the SADC Region (2.7)

This relationship between the development and use of teaching and learning support materials will explore effective ways of tracking the resource materials developed at the SADC Centre and the lessons learnt will guide professional practice of environmental education practitioners in developing such materials.

2.2. History of SADC REEP

The SADC REEP is the official regional environmental education organ responding to regional environmental issues and risks specific to southern Africa.

2.2.1. The Southern African Development Community

Originally known as the Southern African Development Coordination Conference (SADCC), the Organisation was formed in Lusaka, Zambia, on April 1, 1980, following the adoption of the Lusaka Declaration (see Section 1.2.). The SADCC united nine states with a combined population of 60 million, had as its objective the task of promoting economic development and realizing economic independence. The Declaration and Treaty establishing the Southern African Development Community (SADC), which has replaced the Coordination Conference, was signed on August 17, 1992 in Windhoek, Namibia. Member States are Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. The Community redefined the basis for cooperation among member states from a loose association into a legally binding agreement. The SADCC was formed by the then frontline states to support democratic transformation in southern African countries whereas the SADC's focus was more on the development of the region now that all the countries in the region had been liberated from minority rule. The SADC Community is home to some 291 million people, of which about 75% live in rural areas where a very large proportion of them depend on natural resources for their livelihoods (Lotz-Sisitka, 2004).

2.2.2. SADC Regional Indicative Strategic Development Plan

In order to provide strategic direction to the organisation and to operationalise the SADC Common Agenda, a Regional Indicative Strategic Development Plan (RISDP) was put in place and approved by SADC Council of Ministers at its annual meeting in August 2003. One development is that RISDP, having recognised environment and sustainable development as a cross cutting issue, has therefore moved environmental education from the Food Agriculture and Natural Resources Directorate to the office of the Chief Director (Department of Strategic Planning, Gender and Policy Harmonization). The SADC

restructuring process has therefore meant that the SADC Secretariat is now the senior management body for the SADC-REEP and that the RISDP is now guiding developments.

The introduction of the environmental and sustainable development priority area, into the SADC RISDP document, summarizes SADC countries' commitment to International Agreements in environmental education.

SADC Member states have committed themselves to integrate sustainable development as reflected by the Treaty establishing the organisations, and their active participation in the negotiations and ratification of major Multilateral Environmental Agreements (MEAs). To this end, the SADC Region has endeavoured to put in place mechanisms for the implementation of MEAs such as the United Nations Framework Convention on Climate Change (UNFCCC); United Nations Convention to combat Desertification (UNCCD); United Nations Convention on Biological Diversity (CBD); Basel / Bamako Convention; Persistent Organic Pollutants (POP); and Ramsar Convention. In addition, member states are committed to the attainment of the Millennium Development Goal of ensuring environmental sustainability. (SADC RISDP, 2004: 8).

2.2.3. SADC Environment and Land Management Sector

In 1993, the Southern African Development Community Environment and Land Management Sector (SADC ELMS) initiated a programme to support environmental education processes in the SADC region. (Russo & Lotz-Sisitka, 2003) The SADC ELMS had been initiating various strategies to promote greater networking in the region. One strategy used was the holding of workshops like the one held in Namibia in March 1994 with the specific objective of clarifying and fostering cooperative environmental education networking (Taylor, 1997). The report coming from this workshop noted that there was a lack of policy on EE in most of the SADC countries; that EE activities were uncoordinated, that there was a critical inadequacy of EE expertise as well as teaching and learning materials to effectively carry out EE (SADC REEP Mid-Term Report, 1999). Functions of SADC ELMS are now absorbed into the SADC Secretariat.

The Namibian workshop was followed by another regional workshop on networking held at the Umgeni Valley Project, in February 1996, which was also organised by SADC ELMS. This workshop focused on regional networking and cooperation regarding training in environmental education and the development of resource materials. The workshop had been called following a two-year research study, which concluded that, "the Umgeni Valley Project was the most suitable institution to act as the Regional Centre for

environmental education and networking" (Gretener, 1996: 20, in Taylor 1997). It also cited Materials Development, Training and Networking as the key areas that needed to be addressed. These workshops were complimented by other research processes, which highlighted the need for enhanced environmental education in southern Africa (Hertzman, 1996; and Taylor, 1997). These developments will then lead to the establishment of an environmental education centre for southern African countries, which will among others, facilitate the development of teaching and learning support materials.

2.2.4. SADC REEP

In August 1996 the SADC Council of Ministers approved the Wildlife and Environment Society of South Africa (WESSA) as the implementing agency of the SADC ELMS Regional Environmental Education Programme. The Swedish International Development Cooperation Agency (Sida) agreed to finance the majority of the Programme's activities and the Programme was officially launched in July 1997 and a Regional Environmental Education Centre (REEC) was established at Umgeni Valley in Howick, South Africa.

The SADC Regional Environmental Education Programme was established as an educational response to regional environmental issues and risks (SADC REEP, 2000). The Programme strives to do so through supporting development of environmental education policies, facilitating networking, providing professional training and promoting resource materials development in the SADC region. I am currently working with the resource materials development component where I am contributing through research to the development and use of resource materials in the region. The purpose of the Regional Environmental Education Programme is to:

... enable networking partners. At all levels, to strengthen environmental development in the SADC region, through improved networking, resource material production and increased training capacity (SADC, 1997).

Initially the project was divided into three components mentioned above. However in 2000, after identifying weaknesses in the programme, a fourth component of policy development was integrated (SADC Report of 2001- 2002).

The SADC Programme's Mid-Term Review carried out in 1999 recommended that, "Immediate and urgent attention must be paid to the staffing and resourcing of the Regional EE Programme" (SADC REEP, 2000; 33). In order to support environmental education processes in the region, research was carried out in 2000 (the Research into Issues of Sustainability, 2000), and the findings can be summarised as follows:

- The SADC REEP should be maintained as a central hub for the SADC ELMS environmental education programme.
- The SADC REEP Centre should work towards sustainability by: building accommodation units, continuing the development and sale of resource materials, consulting in the region and internationally.
- The SADC REEP should recruit personnel responsible for the following disciplines: regional coordination and networking, resource materials development and production, training and administration.
- The SADC REEP should support the development of, and work closely with, other centres in the region.
- Emphasis needs to be placed on building capacities and partnerships not only with individuals but also local organisations and agencies engaged in EE activities (SADC REEP, 2002: 34).

2.2.5. International commitments to environmental education

The SADC Region is committed to the global environmental educational initiative to respond to local issues and risks going back as far as the Stockholm Conference in 1972 to the most recent World Summit on Sustainable Development (WSSD) in 2002. The world's first intergovernmental conference on environmental education was organised by the United Nations Education, Scientific, and Cultural Organisation (UNESCO) in cooperation with the UN Environment Programme (UNEP) and was convened in Tbilisi, Georgia² (USSR) from October 14-26, 1977.

The SADC region is committed to the Millennium Development Goals, which commit the international community to an expanded vision of development, one that vigorously promotes human development as the key to sustaining social and economic progress in all countries, and recognises the importance of creating a

² Delegates from 66 member states and observers from two non-member states participated. Representatives and observers from eight UN agencies and programmes also participated. Three other intergovernmental organisations and 20 international nongovernmental organisations were also represented. In all, 265 delegates and 65 representatives and observers took part in the conference.

global partnership for development. The goals have been commonly accepted as a framework for measuring development progress.

It is the responsibility of the 146 countries that have signed the *Millennium Declaration* to work to achieve these goals. The UN has made the assessment that it is possible to achieve the goals. However, the international community must make special efforts if they are to be achieved in Africa and South Asia. According to the United Nations Development Programme (UNDP) (2003) cited in Lotz-Sisitka, (2004), Sub-Saharan Africa would not reach the goals for poverty until 2147 and for child mortality until 2165. Figure 2.1 below illustrates the challenge facing southern Africa in attaining the Millennium Development Goals (MDGs)

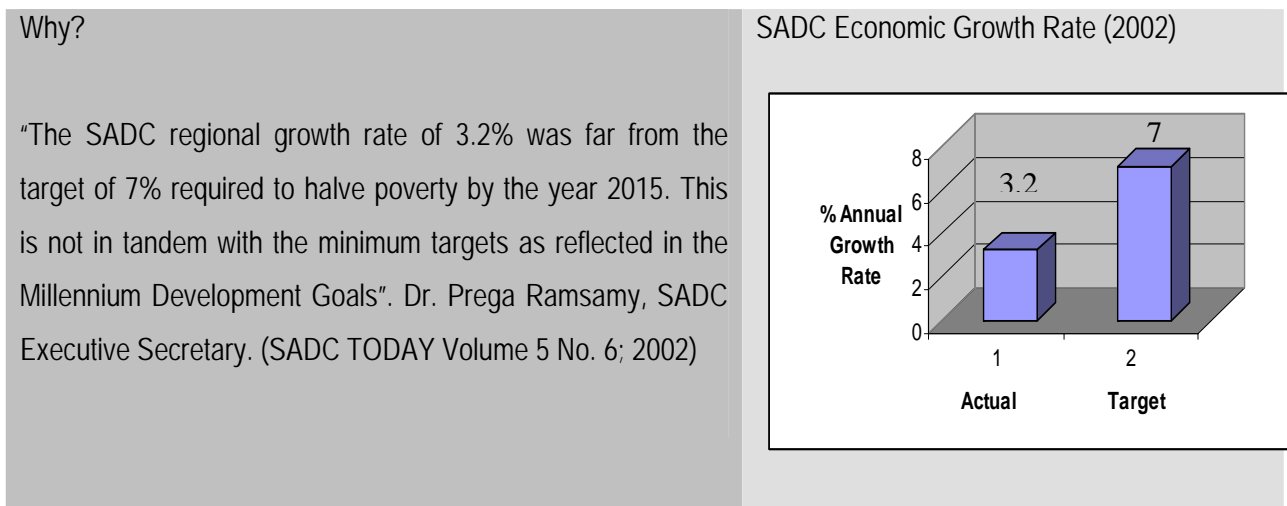


Figure: 2.1. Challenges for SADC countries

Environmental education needs to be seen as a powerful tool to respond to such challenges and it needs to be supported by the development of materials addressing issues in context.

The SADC REEP is committed to NEPAD³ principles of action through the SADC region, where African governments have committed themselves to the MDGs under the framework of NEPAD. It also emphasises

³ The New Partnership for Africa's Development (NEPAD) is a VISION and STRATEGIC FRAMEWORK FOR AFRICA'S RENEWAL. The NEPAD strategic framework document arises from a mandate given to the five initiating Heads of State (Algeria, Egypt, Nigeria, Senegal, and South Africa) by the Organisation of African Unity (OAU) to develop an integrated socio-economic development framework for Africa. The 37th Summit of the OAU in July 2001 formally adopted the strategic framework document.

the need to meet the MDGs for education and health, and has established an Environmental Action Plan (EAP). This EAP, among others, stresses capacity building in all aspects of environmental issues in Africa. (NEPAD EAP, 2002, in Lotz, 2004)

Capacity building is being realised in enabling environmental education practitioners from southern Africa and beyond in training and resource materials development at the SADC Centre.

2.3. History of materials development at SADC REEP

Over the five-year period between 1998 and 2002, the SADC REEP has hosted over 700 environmental educators from the SADC member states and beyond. Visiting practitioners have worked in curriculum development, environmental education policy, professional development and capacity building initiatives, and the adaptation and development of learning support materials (Russo & Lotz-Sisitka, 2003). The SADC REEP acknowledges the importance of learning support materials in supporting environmental learning in the region, which involves a strong focus on the adaptation, development, use and dissemination of learning support materials (SADC REEP, 2002).

In addition to supporting the development of resources in and for particular situations, the SADC REEP encourages resource developers to examine "... why the resources are being developed in particular ways and how they will be used" (SADC REEP, 2001: 13)

2.3.1. Research findings

Recommendations from the Mid-Term Review of 1999 highlighted that the SADC programme should place more emphasis on supporting the development of capacity to develop materials and training courses in all SADC countries (SADC, 2002). Two key recommendations from the findings of the research into issues of sustainability carried out in 2002 can be summarised as follows:

- ❑ Expert support should be provided to guide resource materials development and production and to support these processes in the region and that,
- ❑ Materials development should be driven at a national rather than a regional level.

2.3.2. The attachment programme

The attachment or fellowship programme provides an opportunity for EE practitioners to work on the development and/or adaptation of learning support materials. Three programmes are planned for the year and ten participants from SADC countries spend ten days at the SADC Centre working on a learning support material for use in their context.

The SADC REEP evaluation report prepared for the EEASA Conference of 2005 cites that respondents from Swaziland and Botswana judged that the attachment programme has so far done little to improve resource development capacity in these countries. On the other hand, a special attachment for environmental educators from Angola and Mozambique significantly boosted the development of Portuguese resource materials for use in the region (Rosenberg, 2005: 30). With regards to the quality of resources that the participants will eventually produce one might argue that " ... the process of learning on the attachment programme is more important than the actual product produced" (*ibid.*)

2.3.3. SADC regional environmental education source books

The programme developed a number of 'source books' or guiding documents, which aim to give environmental educators guidelines pertaining to key topics. These are:

- ❑ *Enabling EE... Guidelines for Environmental Education Policy and Strategy Processes* in the SADC states (with the IUCN Regional Office for Southern Africa's Networking and Capacity-Building Project, NETCAB) (SADC 2001; 2005)
- ❑ *Developing Curriculum Frameworks - A Sourcebook on Environmental Education amongst Adult Learners*, (with the Rhodes University Environmental Education Unit) (SADC 2001; 2005)
- ❑ *Development, Adaptation and Use of Learning Support Materials - A Source Book in Support of Environmental Education Processes*, (with the Rhodes University Environmental Education Unit)
- ❑ Course Development Network (CDN) Materials: *Case Stories in Environmental Education Research in Schools and Communities; Course Development Processes; A Monograph of Case Studies from*

Southern Africa, and a planned *Course Developers' Toolkit* consisting of materials on course materials development; course evaluation; and learner and tutor support which still in the press (Rosenberg, 2005).

The *Course Development Tool Kit* is going to be launched in November 2005. These source books have been used in a number of states like Lesotho, Tanzania, South Africa, Namibia, Zambia and Zimbabwe for policy consultation, EE training courses, and materials development (*ibid.*).

The source book *Developing Curriculum Frameworks* was deliberated on with contributions from 62 environmental educators from eight SADC countries while the other one, *Development, Adaptation and Use of Learning Support Materials*, was published in collaboration with 20 participants from 13 SADC countries.

2.4. Challenges associated with materials development

2.4.1. Development, distribution and use

There is evidence in the SADC Region of emerging problems regarding the production, distribution and use of relevant learning support materials for environmental education (EEASA, 2002, cited in Russo 2003). It was therefore proposed that guidelines for the development and use of learning support materials be developed. This has been partially addressed through the development of regional source books on curriculum and materials development (Russo 2003).

There is need for research on the use of learning support materials in the context of professional development (Lotz-Sisitka & Raven, 2001). Another observation was that, in learning support materials development the consideration of how the materials are going to be used is often neglected leading to the "commercialisation" of learning support materials (Russo & Lotz-Sisitka, 2003). Czerniewicz *et al.*, (2000, cited in Russo, 2003) suggest "... there is need to provide professional development opportunities for educators to understand how to use learning support materials".

Educators involved in initiatives for developing and adapting learning support materials often do not discuss and reflect on how and where the new materials will be used and fail to recognise the context and environmental issues involved (O'Donoghue & Russo, 2003). The lack of understanding of the use of

materials has created an ambivalent space where materials development and the use of materials with groups of learners are not undertaken with clearly thought through positions (O'Donoghue & Russo, 2003).

2.4.2. RDDA and participatory approaches

Research in resource materials development in southern Africa has revealed a shift from Research Design Dissemination Adopt (RDDA) to more participatory approaches. With these findings in mind, the SADC Regional Environmental Education Programme embarked on investigating ways of addressing issues associated with materials development. One way of tackling the issue was the establishment of the attachment programme as an opportunity for environmental education practitioners in the SADC region to spend some time at the SADC Centre working on resource materials development for use in their work contexts. Russo, (2003) and Parker and Murray, (2000) state that the SADC REEP was later tasked to support the development of capacity for materials and course development in the region. It was also required that the Programme should assist the SADC member states in the production/development of resource materials without a heavy reliance on the adaptation of South African materials as was the case. (SADC REEP, 2001).

The first publication of the book *Developing Curriculum Frameworks* benefited from contributions by environmental education practitioners from eight SADC countries (see section 2.3.3). Although it was first published in 1999, consultation had started in 1997. Practising environmental educators from the 11 SADC countries deliberated in order to facilitate regional consultation and contributions during a workshop held from the 20th to the 24th of June 2005. The participants came up with an updated draft version of the book, which will reflect the current environmental education practice in the region.

As a follow up to this, SADC REEP was again able to engage a number of environmental education practitioners in developing a regional source book, which supports the development, adaptation and use of learning support materials (Russo & Lotz-Sisitka, 2003). The source book outlines different trends in resource materials development, which include the shift from 'top down' and 'expert-driven' approaches to more participatory approaches, which recognise the 'mixing' approaches as a way of addressing the weaknesses and limitations of both the 'top down' and participatory approaches (Russo & Sisitka, 2003).

The SADC REEP evaluation report prepared for EEASA 2005 reports that some participants interviewed during the evaluation process "... observed that the principles which underpin the SADC REEP and which are in evidence in the source books, reflect those of education systems undergoing transformation towards, for example, learner centred pedagogies, context-relevant curricula and participatory materials development" (Rosenberg, 2005: 46).

2.4.3. Evaluation report 2005

The findings of the SADC REEP evaluation report prepared for the EEASA 2005 conference in Zambia are given below. The report pointed out some weaknesses that need to be addressed as follows:

- ❑ Contexts like rural schools remain poorly resourced – this gives rise to the view that more resources should be produced, while the issue to consider might be better processes for printing and distribution, and better support for effectively using what is available.
- ❑ There is a sense that more needs to be done to develop resource development capacity at a national (as opposed to individual) level, and a need for more resource centres in the region.
- ❑ The focus for resource materials development processes is on a limited range of resource types.
- ❑ Materials produced by attachment participants are at times poorly conceptualised with little thought of the needs they would serve; this reflects not only on the production but also on the learning process, which the materials development process is meant to enable.
- ❑ Some participants struggle to find ways to take materials developed with seed funding to the next scale and into use.
- ❑ There is no tracking system for materials produced on the Programme or in the home country, following programme activities.
- ❑ Aspects of seed funding processes including communication about and interpretation of requirements, and the role National Network Representatives, cause frustration.
- ❑ To increase, broaden and enhance the benefit of the attachment programme to at centres other than the Regional Centre; however, it will be difficult to find the combination of factors which facilitate productive attachments, including shared Programme principles and orientation to education and a culture of support for adult learning/training processes (Rosenberg, 2005: 63- 4).

Three of the strengths cited in the report, which are relevant to this study, are:

- ❑ Materials development informs and gives tangible substance to policy and training and facilitates and strengthens networking (see section 2.2.1)
- ❑ Source books are being used quite widely for the purposes they have been intended; they synthesise regional work and address a clear need for guidance
- ❑ A participant working in a mentoring relationship on materials for their own use, for a clearly identified purpose, is an effective way of working; with a potentially high impact in particular contexts (*ibid.*, 64).

This research will work with two recommendations from this study. These are:

- ❑ Track a good selection of resources produced on the Programme with regards to users, numbers of users and types of use.
- ❑ Map a wide range of resources produced on and in association with the Programme according to criteria which may include type of material, audience and intended use.

A Year of Special Days Booklet is going to be used for preliminary tracking and its regional use will also be mapped.

2.4.4. Learner centred materials

Since the end of 1970s, there has been a movement to make learners rather than teachers the centre of learning. In a learner centred approach to teaching, learners are more important than teachers, materials, curriculum, methods, or evaluation. As a matter of fact, curriculum, materials, teaching methods, and evaluation should all be designed for learners and their needs (Kitao & Kitao, 1997). In other words; learners should be the centre of instruction and learning. The curriculum comprises of the goals of learning, the methods of learning, etc. The role of teachers is to help learners to learn. Teachers have to follow the curriculum and provide, make, or choose materials. They may adapt, supplement, and elaborate on those materials and also monitor the progress and needs of the learners and finally evaluate learners' performance.

The development of resource materials has had a history of being expert driven, in which case the experts would identify the need for materials, often informed by research. This would be followed by the

development of the materials, which were then disseminated to the end users who finally adopted them (Lupele, 2002), (see section 2.3.2). This process of resource development came about as a result of the need to create awareness (Taylor, 1997). Support for the development of resource materials has also shifted from regional level to national level. One of the recommendations from Russo's research in 2003 was the integration of processes of adaptive use of learning support materials (Russo, 2003).

The linear learning models were often based on behaviourist theories of learning (Fien, 1993). These have changed to a more interactive, open-ended model of dialogue-encounter-reflection, which has changed the way resource materials are developed (Fien, 1993; Taylor, 1997). Three models of materials development have emerged:

- ❑ The RDDA approach
- ❑ Action research to engineer change and
- ❑ Action research as a critical social process

Elements of the RDDA model are still common even at SADC REEC in materials development (Lupele, 2002). Materials development in the SADC Region are still centralised in the curriculum development centres who are responsible for the development of learning support materials to be used with learners in the schools. Since the educators have to follow instructions on how to use the resource, this approach is quite prescriptive (Lotz, 1996, in Lupele, 2002)

Political transformation in southern Africa ushered in the need for a more open and democratic way of looking at life, including the approaches to resource materials development. There was therefore a need to re-examine the RDDA approach to resource material development. The seeking for more democratic and participatory methods necessitated this, according to Robottom (1998) and Cornbleth (1990). The alternative approach to resource materials development was therefore found to be action research and this, according to Kemmis and McTaggart, was being driven by the quest to improve and understand the world by learning actions, reflection on these actions and ongoing changes (Kemmis & McTaggart, 1988).

It must be pointed out at this stage that some educators using action research do so as a model to 'steer and engineer changes'. The expert is still there and they design everything beforehand and the learners become implementers of a predetermined plan. This has come to be referred to as Action Research as a

Strategy to Engineer Change (SADC RU EE Course File, 2002). Littlejohn and Windeatt (1989) argue that materials have a hidden curriculum that includes attitudes toward knowledge, attitudes toward teaching and learning, attitudes toward the role and relationship of the teacher and Learner, and values and attitudes related to gender, society, etc. Materials have an underlying instructional philosophy, approach, method, and content, including both linguistic and cultural information (Kitao & Kitao, 1997).

There is therefore a real need to link development and use of teaching and learning support materials with the learners taking central position as this allows for more effective environmental learning, hence the need for more research into development and use of materials and also the tracking the resources already being used in environmental education practice.

The SADC REEP evaluation report notes that there is need to "Shift the emphasis from developing more materials, to learning how to use them better, and to consider materials in learning processes" (Lotz-Sisitka, cited in Rosenberg, 2005; 51). "Research showed that even if teachers have access to books for themselves and their learners, they are not necessarily able to use them" (*ibid.*, 52). The answer to resource poor contexts in the rural schools requires perhaps less emphasis on more new materials and more emphasis on making suitable and existing materials fully available to such contexts in ways which would also enable educators to use them effectively (*ibid.*).

2.5. Materials development at the SADC REEP

2.5.1. Complexity and holistic response

As mentioned earlier, environmental education and capacity building are recognised as key responses to environmental issues and risks (UNCED, 1992; Lotz, 1999; SADC REEP, 2002; UNEP, 2002) (see section 2.1.5). The SADC REEP recognises that these responses can best be seen as being facets of a complex holistic response to broad environmental risks (SADC REEP, 2002). The current responses to environmental issues and risks in southern Africa are taking place within a broader international setting and are therefore influencing and being influenced in turn by these international processes (Russo, 2003). Lotz and Robottom argue that local environmental issues are often particular and different from abstracted and generalised global dimensions (in Russo, 2003). Responses to environmental issues and risks therefore

need to recognise the complexity and contextuality being displayed (Robottom, 1978, cited in Russo, 2003). The SADC REEP has taken these into consideration and a focus on collaborative and participatory environmental education has been developed in its courses including resource materials development (SADC REEP 2001).

2.5.2. Categories of teaching and learning support materials

Environmental educators in the region working with the SADC REEP have produced a variety of learning support materials to enhance environmental education processes. These materials include curriculum development guidelines, indigenous knowledge case studies, teacher support packs, environmental days calendars and environmental fact sheets (Russo & Lotz-Sisitka, 2003). Four areas for further development of materials in the field of environmental education were identified in the revised SADC REEP programme document as:

- ❑ Materials for raising awareness through multi-media approaches;
- ❑ Materials to support the formal curriculum;
- ❑ Materials to support community-based activities; and
- ❑ Materials for environmental management and capacity development (SADC REEP, 2002).

In the most recent review (SADC, 2002; Russo 2003) of the SADC REEP, the following categories of learning support materials were identified as priorities, to be supported by the Programme;

- ❑ Materials in the category of *Information on Environmental Issues* are designed to focus on providing information about topical and relevant issues. They include examples like the '*Enviro Fact Sheets*'.
- ❑ Materials in the category of *Tools of Science for Conducting Investigation* focus on enabling learners to engage with local environmental issues and risks through using the 'tools of science' to undertake field work enquiry in a relevant setting. Such materials include '*Water Testing kits or the Cholera Test Kit*'.
- ❑ Then there are materials designed for *Decision Making and Action Taking* which focus on enabling learners to take action to address environmental issues and risks like the '*How To*' series booklets and the '*Action Magazine*'.

- Lastly there are materials used as *Tools for Reporting* whose focus is on enabling learners to report on processes of information seeking, enquiry and action taking in response to environmental issues and risks. Examples in this category include the '*Schools and Sustainability Pack / School Environmental Policy Pack and Management Plan* (SADC REEP, 2002). The booklet *A Year of Special Days* fits into this category, as it was included in the school policy pack to assist schools in planning for the year.

The SADC REEP has therefore prioritised the development of learning support materials that enhance environmental learning processes in context. The programme has recently focused attention '... not only on the development of learning support materials, but on the way in which learning support materials are used'. (Russo & Lotz-Sisitka, 2003: 6) This interest in enhancing both the development and use of learning support materials in environmental education provides the rationale for the development of this study.

2.6. Reflexivity

2.6.1. Reflexivity at SADC REEP

In recognising the importance of context and local scientific knowledge, the SADC REEP also draws on Beck who argues that a combination of scientific conclusions made in the laboratory and perspectives prevailing in real life social situations should be reconciled as part of learning processes (in Russo, 2003). These perspectives have led to revised approaches to education and training where professional development has come to include the notion of resource-based learning and use of learning support materials (Janse van Rensburg & Le Roux, 1998; Lotz 1999; Lotz-Sisitka & Raven, 2001 cited in Russo, 2003)

In response to the concern for materials development in southern Africa, which has been influenced by the shift from RDDA to participatory approaches, ways of addressing issues associated with materials development were put in place. The establishment of the Attachment Programme as an opportunity followed up this concern for environmental education practitioners in the SADC region (see section 2.3.2). In 2003 the SADC REEP developed a regional source book to support the development, adaptation and use of learning support materials which addresses issues like the shift from 'top down' and 'expert driven'

approaches to materials development to more participatory approaches and also recognises the 'mixing' of approaches to address limitations of both the 'top down' and participatory approaches. (Russo & Lotz-Sisitka, 2003)

Evidence from the SADC REEP shows that, that in many cases, educators involved in materials development/adaptation initiatives often do not discuss and reflect on how and where the new materials will be used and fail to recognize the context and environmental issues in which the materials will be responsively used (O' Donoghue & Russo, 2003).

Ulrich Beck's *Risk Society* (1992) argues that in the recent past a quantitative change occurred in the perception of social order as based on flows of 'goods' (positive benefits) and 'bads' (negative outcomes) rather than 'goods' alone.

1. Beck emphasises modernity (Beck, Giddens & Lash 1994), which he calls 'reflexive modernisation' as processes of social change, addressing the political, economic and social origin of risks.
2. For Beck reflexivity includes the following aspects:
 - Understanding the communicative logic of the risk society, which enables us to engage the risk society more positively in pursuit of an alternative modernity.
 - Reflexivity as an effective concept in a critique of instrumental rationality, which does not engender affect and cannot develop a concern for being which, is a priority in the risk society.
 - Reflexivity as connected to scepticism and doubt.

The main question engaging social and environmental decision-making now is 'How can risks and hazards produced as part of modernisation be prevented' (Lotz-Sisitka, 2004).

Beck (1992) uses the term 'reflexive modernisation' in the context of exploring environmental risks created through modern industrial systems and development economies. He sees reflexivity as increasing freedom from; and critiquing of the dominance of science and expert systems in organising social life (Beck, 1992).

2.6.2. Application to southern African context

Although Beck wrote *Risk Society* for the European context, Le Grange (2003) observes that Beck's findings can be 'partially' applicable to the less developed world. He argues that the risks and hazards that Europe experienced in the 19th century are evidently being experienced by millions of people in the developing world. Risks in southern Africa are associated with poverty, hunger, overcrowding and disease.

The increasing kinds and levels of risk being experienced in developing countries have been worsened (a double blow).

The sustainability of education itself is at risk. Le Grange (2003) notes that in South Africa the grade 1 enrolment are declining due to HIV/AIDS. Ecological and high-tech risks are no longer tied to their place of origin, the industrial plant. They have become ubiquitous (radioactivity, toxins in the air, global warming and ozone destruction). They cut across national boundaries and across continents (global risk).

Examples of risk in southern Africa can be summarised as follows:

1. The unpredictable consequences of genetic engineering technologies on food security and biodiversity.
2. The close association between poverty and environmental degradation and risk. The provision of adequate sanitation, water related health risks, food security and land use management, illustrate the close association between poverty and environmental degradation and risk. These two types of risk cannot be separated from each other and are integrally tied up together in social structures, systems and processes.

2.6.3. SADC REEP responses to risk

According to Giddens (1990), institutional reflexivity involves processes through which social institutions and practices are constantly examined and performed in light of new information about them, thus altering those institutions and practices.

When describing structural reflexivity Lash (1994) says individuals become free from constraints of social structures through reflection on the rules and resources of such structures. Receding social structures are continuously being displaced by what he calls 'information and communication structures' thus emphasising knowledge systems in processes of change. Reflexivity is an extension of reflection. It is linked to unintended consequences of modernisation, the effects of non-knowing (Beck, 1999).

Reflexivity in practice is used to emphasise action and change, initiated through a critical review of practice. Usher *et al.* (1997) calls for praxis as a form of practice, which is both reflective and reflexive. Praxis is about exploring the why question which underlies what we do and how we do it and feeding this exploration back

into practice (Janse van Rensburg & Le Roux, 1998). The aim of exploring the theory underlying actions is to improve what we do and how we think about what we do. Praxis is therefore informed critical action for change. The SADC REEP attempts to support the development of critically reflexive environmental educators. Regional course participants and materials developers training with the SADC Programme are responding to a range of diverse and complex environmental issues and risks. These include:

1. Personal and professional development for materials development: participants who join the programmes with the expectation of being taught by an expert on the best way of doing environmental education in their context often express disappointment in not finding this expert. Participants are therefore forced to reflect on the practice they are used to and they often go back home with a different perspective. This results in the development of critically reflective capabilities, which Giddens (1990) calls structural reflexivity.
2. Contextual relevance participants are encouraged to develop environmental resources or programmes for use in their work context and in response to environmental issues and risks, which they have identified as the focus for learning. Participants work in the real world, and this forms the source of learning and consequently learning feeds back into the real world of participants.
3. The recognition of the relationship that exists between theory and practice is paramount. Participants are encouraged to consider why they do what they do and how they do it. Many participants who do not have an educational background are forced to reflect critically on the approaches used in their practice (Reflexivity in Practice).
4. Seed funding for resource materials development in context: an example of this is the resource materials development workshop looking at working with communities in Malawi where practitioners were developing materials responding to the dwindling of the *chambo* fish in Lake Malawi.

Of the five objectives cited in the *Programme Document* of 2002, the first one partly reads, "... to support a reflexive orientation that informs and guides the development and implementation of environmental education processes within the SADC region" (SADC 2002: 14). In the same *Programme Document* of 2002, reflexivity is described as "... a process of critical and contextual review and action through which participants in the programme and significant others work together to understand the programme, its components and the context in which it is coming to present and use this understanding to inform the ongoing shaping of the programme" (SADC, 2002: 25).

Reflexivity involves more than reflection on one's own practice. Writing in the SADC REEP evaluation report of 2005, Rosenberg argues, "... it also involves reflecting on the broader context of that practice, and it's [sic] shaping influences." (Rosenberg, 2005: 106) She goes on to highlight that the roots of the idea can be traced to social theory where it refers to societies becoming more self-reflective, asking questions about the factors which shape them as a society. The SADC Programme works towards supporting a reflexive orientation through the following:

- ❑ A reflexive orientation through the way in which it interprets and applies other Programme principles, for example the principle of "Building on existing structures and research experience" is informed by critical reflections on what programme staff call a development ideology.
- ❑ A reflexive orientation that shapes the educational frameworks of courses like the SADC/Rhodes International Certificate in Environmental Education and guiding documents such as the source books (see section 2.3.3); and the Danida sponsored futures research paper; capacity building activities such as the indigenous knowledge and learning through doing workshops and also staff research like the MSc thesis by M. R. Ward and also the work being undertaken in this research.
- ❑ Teaching about reflexivity as in the SADC Rhodes University International Certificate Course.
- ❑ The kinds of educational processes and support materials developed on the Programme. An example can be drawn from the open ended materials which encourage learners to ask questions, debate, explore, find new answers, and also critically review traditional knowledge.
- ❑ Encouraging practitioners to write up their experiences in critical and reflexive ways, and publishing these within critical and reflexive frameworks in the EEASA Monographs and the Southern African Journal of Environmental Education which is supported by the Programme, for example Justin Lupele's work on the development of resource materials in rural communities in Zambia (EEASA, 2004).
- ❑ Evaluations, which are approached as processes of accounting and as opportunities to reflect on and improve the programme. The SADC REEP evaluation report of 2005 is the latest example.

The evaluation report of 2005 notes that the above are evidence of a reflexive way of work in the SADC Programme, however, when they looked for evidence of reflexivity in course participants' written assignments, students' discussions on courses and during workshops and research reports, "... reflexivity and associated educational orientations were not common" (Rosenberg, 2005: 107) Lotz-Sisitka notes that

it is unlikely that reflexivity would be visible in what she calls 'atomistic' evidence on a micro-scale and in a single instance, given that it is in a broader social process. She finds evidence of reflexivity emerging in the Course Development Network output after three years of working (*ibid.*).

The culture of research and reflexivity, which characterises the training components of the Programme, is not as strongly applied to materials development. Several attempts have been made to inform the attachment programme with research, but this has not been entirely satisfactory. Given the mixed views with regards to the success of this programme (see 2.2.2) and the strong sense that "much is happening out of the central gaze" (*ibid.*, 63) there is a need to document and research the following;

- The further work of participants who have participated in materials development capacity building, and
- The development and application of the materials on the Programme, both at SADC REEP and elsewhere where Programme activities are said to be very productive but 'hidden' (*ibid.*).

It is hoped that this research will support a reflexive orientation that will inform and guide the development and implementation of environmental education processes within the SADC region through investigating the axes of tension between the development and use of learning support materials.

2.7. Tracking the development and use of materials

2.7.1. The value of tracking

There have been increasing demands on the SADC REEP to demonstrate the influence and impact that it is having on the state and condition of materials development in order to demonstrate the relevance, effectiveness and efficiency of its work in southern Africa. If the SADC REEP wishes to maintain its place as a respected leader in environmental education, it needs to improve its capacity to learn from experience and be able to demonstrate its impact, influence and added value to regional and indeed global environmental education efforts. It is therefore not yet possible to determine if the development and use of SADC REEP materials actually lead to the intended changes and impacts. One of the first steps is the development and testing of a methodology to monitor and evaluate the influence of key products and services. This will then be used to integrate the practice into ongoing programmatic and evaluation work (The World Conservation Union, 2004).

Case studies are used to gain insight into factors that influence the use of products such as learning materials to determine their effects, if any, on targeted users; and to assess whether these effects were contributing to the outcomes sought by the programme. They also avail the opportunity to test and develop a methodology for tracking the use and effects (*Ibid.*).

2.7.2. What are we tracking?

For over five years now the bulk of the over 700 environmental education practitioners visiting the centre have worked on the adaptation and development of learning support materials (see 2.3). There are at least three attachment programmes each year, attracting environmental educators working on resource materials from all the SADC states. The SADC Rhodes University International Certificate Course in Environmental Education attracts up to 14 participants each year and for their home assignment projects are often in the form of curriculum and teaching and learning support material. The Advanced International Environmental Education Certificate Course in Formal Education attracts around 16 participants each year who spend their final 14 days at the SADC Centre developing materials for curriculum development, environmental education policy, professional development and enhancing capacity. These three programmes together with the other 'special attachments' workshops facilitate the adaptation and development of learning support materials by environmental educators for use in their different southern African contexts. Up to now there has not been an effective method of tracking these materials from the SADC Centre to their places of use in order to assess their effectiveness and to draw on the lessons learnt for future planning.

Current information is more often than not fragmented, incomplete and often contradictory, leading to great difficulties in implementing environmental policies. It is possible to determine whether the use of the materials actually leads to the intended changes and can map their intended knowledge products and services, assess their place on the knowledge value chain, assign priorities based on known criteria and integrate their outputs into their overall strategic frameworks (The World Conservation Union, 2004). One recommendation in the SADC REEP evaluation report was that the programme should track a good selection of resources produced at the Centre and elsewhere with regards to, for example, users and numbers of users, types of use, possible impact, dissemination strategies and progress, and the cost involved. The recent example of the IUCN method of mapping out its knowledge products was strongly recommended (Rosenberg, 2005: 55).

2.8. Research focus

2.8.1. The case study booklet

The original author of *A Year of Special Days* booklet, K. A. Davies, put the first edition together in 1996 from the Diocese of Umzimvumbu, near Kokstad, as her final assignment for the Goldfields Participatory Course in Environmental Education. Since then it has been annually updated and expanded with contributions from people around South Africa and it has even been adapted for several other countries in southern Africa (see Figures 4.1 or 4.2 or 4.3)

The booklet is designed to help educators plan for school environmental education activities such as school assemblies and other learning programmes, which take place on special environmental days of the year. My encounter with the booklet has shown that each page provides just enough information to launch learners and educators on a quest to find out more. Possible activities for each special day may include inviting a guest speaker for the school assembly, planning active learning for the class in line with the curriculum, or whole school activities around a chosen theme. It also makes it possible to plan for special activities with other schools or institutions on designated days that coincide with those that are nationally recognised.

2.8.2. Intentionality

For planning the school calendar, the centre page shows the commemorative days outlined in the booklet. A single page is allocated to each Special Day and it includes:

- Interesting background information on the commemorative day
- A guiding question to stimulate further inquiry
- Contact details to obtain more information
- Reference to Share-Net and other materials that can support environmental learning.

On the back page, a list is provided of relevant groups who can provide more information on each Special Day or put you in contact with local projects. Interviews were carried out with the people closely linked to the development of the booklet with regards to the history behind the booklet.

2.8.3. Purpose of research

The research on the booklet, *A Year of Special Days*, will be carried out with the view of using the lessons learnt as a framework for similar work in resource materials development at the SADC Regional Environmental Education Centre. As a resource materials developer with the SADC programme, I would like to offer informed recommendations for environmental education resource materials developers working with the SADC EE Programme based on this research.

The booklet was originally produced as a resource for the Anglican Church community but it has since changed to become a school or institutional tool kit for the annual planning of special environmental days to be commemorated. In an attempt to include a diversity of beliefs, developers of the booklet at Share-Net have approached a number of members of different faiths for contributions, but feedback was not forthcoming (Davies, 2001). Since its inception as a coursework assignment in 1996, the booklet has been reproduced and adapted in several countries and has been translated into at least two different languages.

The booklet was adopted in 1998 for the Durban Local Agenda 21 and in 2000 by the National Department of Education in South Africa for Enviro-Day plans of activities. Several countries in southern Africa, among others Angola, Zambia and Zimbabwe have adapted it. In East Africa it has been adapted in Kenya and Tanzania (see Figures: 4.1 & 4.2 in Chapter 4). Evidence of widespread use suggests that this booklet has become an outstanding resource material for environmental education processes in at least eight countries in the SADC and East African regions.

I am going to investigate why the booklet was developed and how it is being used in southern Africa. This study will provide an enabling orientation that will assist materials development in different settings to improve the development and use of learning support materials (see Section 1.4).

2.9. Conclusion

This chapter has presented a broad view of the context within which the research has been set for the investigation of the relationship between the development and use of teaching and learning support materials in southern Africa. It is a reflection of the contextual influences within which the study takes place. It shows how the SADC REEP has been responding to the environmental issues and risks in southern Africa through the development and use of teaching and learning support materials. This includes the history of the SADC Region and the SADC REEP, history of materials development, challenges to materials development, materials development at the SADC Centre, reflexivity, and tracking materials development and use in southern Africa.

An important development is the shift in the development of resource materials from the traditional RDDA approach to more participatory approaches, which include consultation with stakeholders during the development of resource materials. The study recognises the role played by materials in teaching and learning. Examples of resource development at the SADC REEEP Centre have been articulated and the inherent challenges outlined. The next chapter will discuss the development of a research design, which will explore the relationship between the development and use of teaching and learning materials in southern Africa.

Chapter 3 – Research Design Decisions

3.1. Introduction

In this chapter I intend to outline the research design decisions of the research processes in the development and use of the Teaching and Learning Support Material, *A Year of Special Days*, in the context of the SADC REEP. I will describe the theoretical framework which informs the design of this research, the data generation techniques relevant to the research focus, the data analysis and the interpretation. I will also explain how and why the case study approach was used to probe the research question as stated in Chapter One. An explanation of how the data generation and analysis processes were used to arrive at the research findings is also given.

In this chapter I also discuss the considerations that were put in place in order to deal with the issues of validity and trustworthiness. It also explains how ethical issues were dealt with in the field of research.

3.2. Research methodology

In my investigation of the relationship between the development and use of the teaching and learning support materials I drew on an interpretive case study orientation. The purpose of the research has been outlined in Chapter One and this was followed up with the research context in Chapter Two.

3.2.1. Theoretical framework

This interpretive case study will use a qualitative approach. Janse van Rensburg (2001: 16) describes an interpretivist researcher as being “interested in the meaning the people make of the phenomena”. Terre-Blanche and Durrheim (1999) also argue that the meaning of human creation, words, actions and experiences can only be ascertained in relation to the context in which they occur. The interpretive orientation also recognises the importance of people’s subjective experiences and is sensitive to context (Terre Blanche & Durrheim 1999). I recognised too that meanings are socially constructed and that they are modified and interpreted according to one’s specific context (Cohen *et al.*, 2000).

The interpretive orientation will be used to provide a framework for understanding the development of resource materials in southern Africa. Conole (1993) notes that interpretive orientation allows understanding of what is going on through active involvement in the process of negotiated meaning. She goes on to argue for this orientation where the researcher can easily identify patterns of meaning which emerge and then generalise from them. In this research I worked with materials developers and educators in schools and other institutions of environmental learning to generate data on the development and use of teaching and learning support materials for EE.

An interpretive orientation helped me in shaping and narrowing my goals and I was able to scale down the number of schools interviewed to just one in order to get an in-depth case in context. An interpretive research framework recognises that the researcher works directly with individuals and their interpretations of their practice so as to develop theory with them and from the perspectives and experiences they share (Cohen *et al.*, 2000). They go on to suggest that theory should emerge from the data arising in particular situations rather than for these situations (Cohen *et al.*, 2000). Data and interpretation of results should therefore be tied to the context of the research (Neuman, 2000). This becomes relevant to my research as the data generated will be examining how the theory behind the development of resource materials ties up with the actual ways in which these are used as these emerge from the developers of the booklet and those people who are using the resource materials (see Chapters Four and Five).

My intention is to develop research that will provide a sound argument that can be used to inform educational decisions and environmental education in the development and use of resource materials. I feel this will be consistent with the interpretive orientation that I have decided to work with. In this research I also recognised that personal preferences, background and interests, and various social and contextual factors, which are not fixed in time, often influence interpretation (Janse van Rensburg, 2001). Consideration was therefore given to the interpretation and analysis of the data when presenting my findings which also took note of avoiding the possibility of imposing my own personal interests.

3.2.2. Case study method

I decided to use the approach of an interpretive case study as a method for my research as this will help me bring out an understanding and an interpretation of specific situations in their context. My interest is the investigation of the development and use of the booklet *A Year of Special Days* in southern Africa with specific reference to schools; in the Midlands of KwaZulu-Natal in South Africa on one hand and schools in Zimbabwe on the other. While working in this orientation, I was able to engage with individuals and groups of environmental educators from southern Africa and mainly from South Africa and Zimbabwe to generate data.

Patton (1980) supports the use of case studies particularly where one needs to understand a particular group of people, particular problems or unique situations in great depth. He further explains that a qualitative case study not only seeks to describe units in depth but also brings out the issue of context and history of the particular issue under investigation. Janse van Rensburg (2001: 16) makes the following observations about case studies:

A researcher can take a close look at individuals or small groups in naturalistic settings, using in-depth case studies, often involving just a single case ... [and] would look for rich, detailed information of a qualitative nature through in-depth interviews or interpretation of documents.

This case study aims to explore the axes of tension between the development and use of the resource material, *A Year of Special Days*, with reference to contextual environmental education processes. Bassey (1999) notes that sufficient data is collected for the researcher to be able to explore significant features of the case. Case studies investigate and report the complex dynamic and unfolding interactions of events (Cohen *et al.*, 2000).

According to Stenhouse, (1978) there are four styles of case studies:

- ❑ Ethnography
- ❑ Evaluation
- ❑ Educational and
- ❑ Action research

The purpose of an educational case study is to improve educational practice, and that is what this research is all about, which is to improve on the development and use of learning and teaching materials.

This case study will enable the collection of information which is specific to the particular case and notes that the idea of a case study is to understand the particular case under study (Stake, 1995). Real life context investigations also offer the opportunity to investigate a contemporary phenomenon (Yin, 1998).

Bassey (1999), proposes four stages for case study research which will be discussed further in the section on data generation (see section 3.3). In order to explore interesting and significant features of a case, the researcher should identify an issue to be explored; asking research questions; generating and organising data; summarising the data into analytical statements; and interpreting the analytical statements and writing the research report. (Bassey, 1999) (see Table 4.1 in section 4.1.2.).

I decided to work with case studies from South Africa and Zimbabwe because I wanted to get an in-depth understanding of the development and use of the learning and teaching support material, *A Year of Special Days*. The Midlands area of KwaZulu-Natal in South Africa was convenient as it is the area in which the SADC REEC is located. The sample of respondents consisted of school teachers from seven schools as users of the booklet and people at share-Net involved in developing the booklet. The other sample was a case in Zimbabwe where I worked with *Action Magazine*, Sebakwe Conservation Trust and Environment Africa as the developers of the booklet; and Sebakwe Primary School and the Secondary Teacher Training Environmental Education Programme (STTEEP) as the users. Besides these specific cases I was also able to engage other environmental educators in the SADC Region at the EEASA conference in Zambia and during my visit to Zimbabwe.

3.3. Data generation techniques

The methods of data generation in this case study are, questionnaires, semi-structured interviews and workshops. To begin with, I decided to hand out questionnaires, which helped me to establish who was actually using the booklet, and to what extent it was being used. From this data I was able to formulate and refine my questions for semi-structured interviews, which further explored what the booklet was being used for. Responses from these interviews were then used to plan for the workshop in Zambia and Zimbabwe. I was also able to keep a detailed research journal, which I used to document information from informal

meetings and discussions throughout the study, especially with people visiting the SADC REEC for conferences and professional fellowship projects.

Research methods refer to different approaches and techniques used in generating and analysing data (Cohen and Manion, 1994). A variety of methods were used as no one single method can provide all the necessary data in the complex field of research (Wolcott, 1992). The variety of methods helped me to make meaningful interpretations. I kept a detailed research journal throughout the research process in which I recorded all the relevant information. I also used questionnaires, semi-structured interviews and workshops as explained in 3.3.1 to 3.3.4 below.

3.3.1. Keeping a research journal

A detailed research journal documented all activities and experiences especially during discussions while at the EEASA Conference in Zambia, during my study visit to Zimbabwe and at the SADC REEC. Elliot (1991) argues that "a journal should contain personal accounts of observations, feelings, reactions, interpretations, reflections, hunches, hypotheses and explanations. Accounts should convey a feeling of what it is like to be there participating in it" (Elliot, 1991).

The journal provided a solid link between the many concurrent levels of experience that are involved in the process of research. The journal provided a place where the research focus and the researcher's role could meet methodological and analytical concerns. I managed to keep track by linking outcomes and so being able to see emerging key themes. From the journal I was able to record information from *Action Magazine*, *Environment Africa* and a visit to my home village in Zimbabwe.

The journal was used to complement the more in depth data generating techniques like questionnaires, semi-structured interviews and workshops as outlined below.

3.3.2. Questionnaires

Questionnaires were used to generate information from the developers and users of the resource material. Questionnaires were sent to ten schools in the Midlands of KwaZulu-Natal. Another set of four

questionnaires was distributed to people who were involved in the development of the teaching and learning material. The questionnaires contained open-ended and closed questions. Cohen *et al.* (2000: 248) argue, "... a questionnaire sets the agenda but does not presuppose the nature of the response". Questionnaires give varied responses that set a base for the next data collecting tools. Terre-Blanche and Durrheim (1999) argue that open-ended questions allow respondents to communicate their experiences and opinions.

The questionnaires were pilot tested with colleagues at the SADC Centre and the head teacher at Hawkstone Primary School in the Karkloof area of the Midlands, KwaZulu-Natal, before being used in the actual research. This school was chosen because my relationship with the school head was good after having worked with the school when a group of SADC participants on a curriculum course visited the school to experience the education system in South Africa. Pilot testing is crucial as Cohen *et al.* (2000) have observed because the benefits include increased reliability, validity and practicability of the questionnaire. The questions were then modified for use in generating live responses.

For the ten schools selected as respondents from the Midlands of KwaZulu-Natal, the questionnaires were delivered in person to teachers identified as contact persons in charge of environmental education. This was easy for me because the schools are already participating as or working towards becoming eco-schools. The questionnaires were then collected again in person and eight out of the ten questionnaires had been filled in and returned. One school in Hilton did not respond despite reminder visits where on three occasions the questionnaire was, either reported lost or unavailable. One school in Howick returned the questionnaire without any information on it. These questionnaires were initially designed to select two schools which are actively engaging with the booklet and which would be involved in the next in-depth data generation using interviews. E-mail questionnaires were used to get information from Sebakwe Primary School in Zimbabwe.

A questionnaire was also used to generate information on why the booklet was developed from the original author of the book, Kate Davies. A questionnaire was sent to her by e-mail and she was able to provide quite a 'thick' description on how and why the booklet was developed. The same questionnaire was used to inquire from other developers in South Africa. Two e-mail questionnaires were sent to Zimbabwe and only one was returned. The other one was followed up with my visit to Zimbabwe in May 2005. The responses

arising from these questionnaires were also used in the planning of further probing from the developers of the booklet as described below.

3.3.3. Semi-structured Interviews

After a careful consideration of all the questionnaires, I decided to work with only one school, which was engaged with the booklet in sufficient depth to warrant further inquiry. It is with this school that the semi-structured interviews were conducted. The outcomes from the questionnaires pointed to very little learner engagement with the booklet itself. The majority of the schools were using the booklet for administration purposes with the exception of Nottingham Combined School, which was using the book for its eco-schools programme where one of their working themes is the environmental calendar. It is this particular school which I decided to work with for my interviews.

Semi-structured interviews were used as a natural form to interact with people in data generation processes. The questions were sufficiently open ended to enable questions to be reordered, expanded and for further probing to take place (Cohen *et al.*, 2000). My intention was to get more detailed information on the actual use of the booklet. I prepared the interview schedule for the users of the booklet, drawing on the insights emerging from the questionnaires mentioned above.

Cohen *et al.* (2000) argue that interviews in research allow great depth. These were open-minded and they enable questions to be expanded and probed further. One-to-one semi-structured interviews were conducted with the principal and two members of the school management committee. I was able to inquire in greater detail what the booklet is actually being used for at the school. I spent the whole day at Nottingham Combined Schools (NCS) conducting two interviews and observing what the learners were doing.

One-to-one semi-structured interviews were also used to generate data from the developers of the teaching and learning support material. In South Africa interviews were carried out with developers of the booklet at Share-Net, Jim Taylor, Kim Ward and Clare Peddie, who have been involved in the development and redevelopment of the booklet for the past nine years. In Zimbabwe interviews were carried out with Naison Bhunu and Baranabas Mawere whose organisations were part of the Special Days Task Team charged with

the task of adapting the booklet. Environment Africa is also involved in using the booklet with communities and schools in environmental learning. These interviews were used to build upon data generated from questionnaires used earlier on.

The semi-structured interviews were in-depth and aimed at probing for the information that had been seen to be shallow or missed out by the questionnaires. When planning the semi-structured interviews, I found it helpful to include the insights for the workshop strategy. I was able to ask questions on what is working well. In Zimbabwe the users interviewed were lecturers from three secondary school teacher training colleges and a community member that I came across on my visit to my home village. One South African interview with Nottingham Combined School was carried out after the workshops in Zambia and Zimbabwe. This was because the school could only give me enough time to carry out long interviews in July.

3.3.4. Workshops

Fortino (2002) describes one type of workshop as inquiry based workshops where educators follow a process of inquiry. They identify a problem, analyse the activities needed to solve the problem and eventually come to logical conclusions about the best course of action. Inquiry based workshops were used as data gathering techniques as I was probing where the booklet was being used, what it was being used for, how it was being used and what worked well and why. The workshops were also used to provide insights on what needed to be recommended in order to improve on what works well and to address that which is not working so well. Two research workshops were planned and carried out, one at the Environmental Education Association of Southern Africa (EEASA) 2005 Conference in Zambia, and another at the Ministry of Education, Curriculum Development Unit (CDU) in Zimbabwe. The two workshops brought together environmental education practitioners to discuss where and how the booklet is being used.

In Zambia participants investigated how the booklet is being used in the SADC region and in Zimbabwe they discussed how the booklet is being used in schools and the community, exploring what works well and how future versions could be improved upon. According to Harlen *et al.* (1995) people learn more effectively when actively involved in making sense of their realities and experiences (cited in Lotz, 1996). By using workshops I was able to quickly and reliably explore the use of the booklet in depth through group discussion. McNaught and Raubenheimer (1991) recommend that workshops should be responsive to the

participants, and that workshop strategies should achieve a balance between presentation of information and sufficient opportunities for interactive experience (Lotz, 1996). It is also an efficient way to get much range and depth of information in a short time, which will be useful in evaluation. Eight participants from three countries, Namibia, Zambia and Zimbabwe attended the workshop. The same workshop strategy was used in Zimbabwe one week later on the development of the same booklet. It was slightly modified to suit the different context. The Harare workshop had been organised to explore how improvements could be made on the 2006 booklet for Zimbabwe.

In Zimbabwe five participants from four organisations using the booklet with school children and communities were represented. The workshop had planned to host 15 participants from as many organisations but because there was no public transport that Thursday, five of the participating organisations were represented. While it limited the number of participants it was however very effective as working with a small group of five people proved to be very intensive. Enough data was generated to provide strong findings on how the booklet is being used by the five organisations represented.

3.4. Data analysis

3.4.1. Levels of data generation and analysis

An interpretive analysis where the actions of the next stage of data generation are influenced by the outcomes of the preceding stage will be described, as they were used in this research. Each data generation (DG) technique produced raw data (RD), which was then followed by data analysis (DA) from which data categories (DC) emerged.

Questionnaires were the first level of data generation (DG1) and these were used to generate information, which became the first level of raw data (RD1). Processing raw data from questionnaires was the first stage of Data Analysis (DA1), and I called this preliminary data analysis. Initial data categories (DC1 – DC3) were put together from emerging clusters. The questionnaires were used to scan the different ways in which schools were actually using the booklet and also how it was being used and this was used to form the basis of the semi-structured interviews.

Figure 3.1 below illustrates the three levels of data generation and analysis that were used in the research. It also shows the stages of data analyses that were followed in order to arrive at the final findings, which are the research findings (RF).

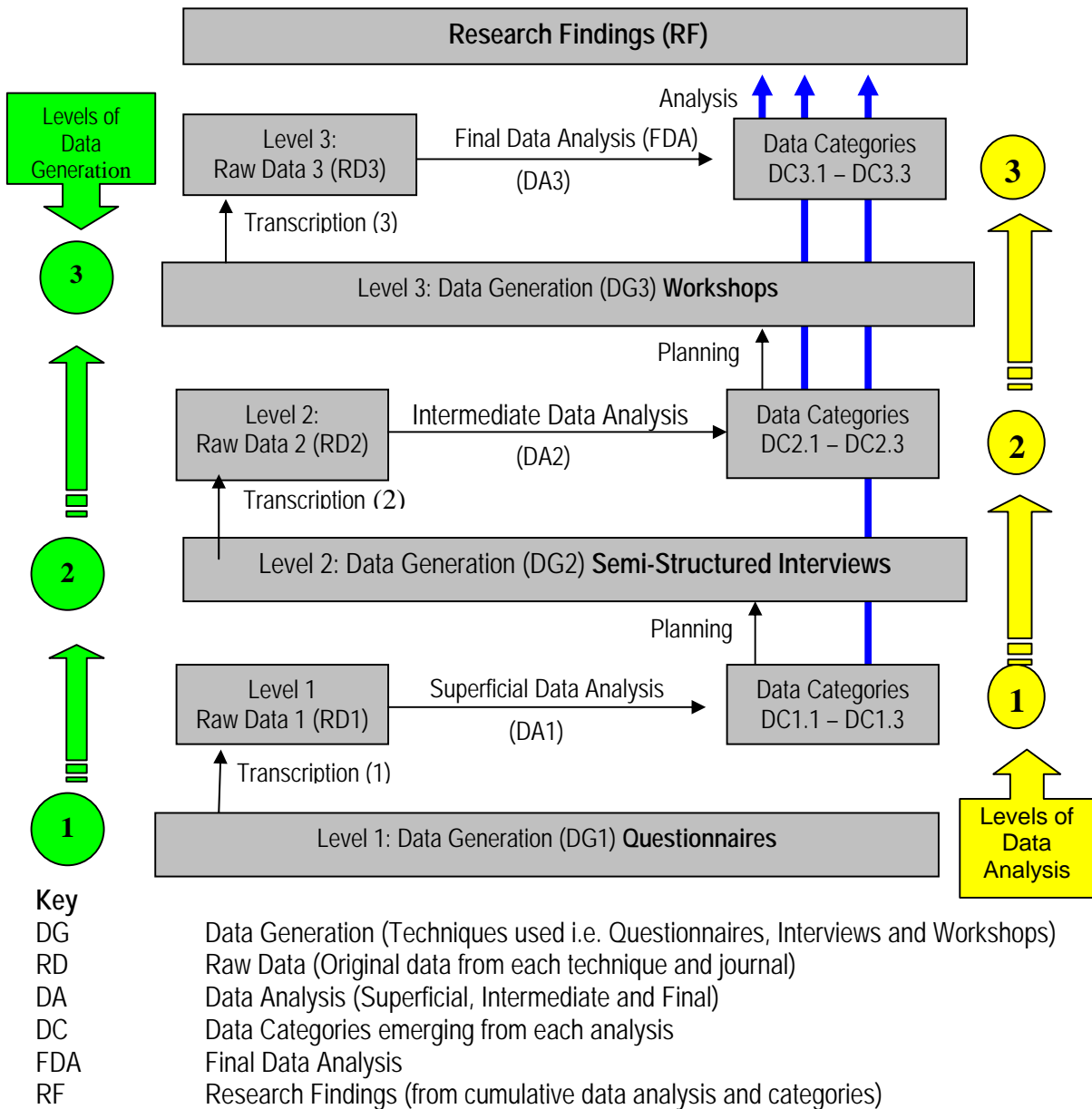


Figure: 3.1. Levels of data generation and data analysis

Questionnaires were also used to generate information from a school in Zimbabwe and a youth organisation in Angola. Out of the eight South African schools that responded to the questionnaires, one was selected for

semi-structured interviews based on their intensive engagement with the booklet. The school selected was participating in the eco-schools programme where one of their focus areas was the environmental education calendar, which they used to plan for learning around special days. What came out of and was of interest to me from the semi-structured interviews were three areas: what is working well; how is this working and why is this working well. This was ascertained from the questionnaires.

Semi-structured interviews (see Figure 3.1 above) were the second level of data generation (DG2), and were used to generate more information from Nottingham Road School in South Africa. The information gathered required a more in-depth use of the booklet and was more specific as to what the booklet is being used for. The interviews solicited information and comments from users on deeper engagement with the booklet. The school was required to provide more detail on the following:

- what is working well and why,
- what is not working so well and why, and lastly,
- recommendations and lessons learnt.

The same strategy was slightly modified to generate data from the Zimbabwean context at *Action Magazine*, Environment Africa and STTEEP. The data generated from semi-structured interviews was then used to build on the planning of the workshops held in Zambia and in Zimbabwe. Information generated at this stage was put into a second level of raw data (RD2) as it emerged. Processing raw data (RD2) from semi-structured interviews became the second level of data analysis (DA2), which I referred to as the intermediate data analysis. The emerging data categories (DC2.1 – DC2.3) were also used to improve on the quality and depth of questions used in the workshops.

Workshops were used as level three of the data generation (DG3). The workshop data was the third level of raw data (RD3), which was used to complement the final data. One workshop was conducted at the EEASA Conference but before it happened, some data was generated from a SADC REEP evaluation workshop where resource materials were also on the agenda. A second workshop was held on the last day of the conference and it attracted eight participants from three countries. The Zimbabwean workshop attracted five people from four organisations. The raw data from the workshops (RD3) provided the last set of information, which also went through an analysis process (DA3), which I called final data analysis, to come up with the final data categories (DC3.1 – 3.3).

The final data analysis combined all categories coming out of the three stages of data analysis, according to the themes and categories emerging from the combined techniques of data generation. This final stage of data categories was refined into the final data, which became the research findings (RF).

3.4.2. Analytical procedure

The analytical procedure of the constant comparison method of data analyses was used as suggested by Glaser and Strauss (1997). The use of constant comparison enabled me to identify themes and sub-themes as a coding system was used for the raw data generated, using the techniques described above (see section 3.3). According to Glaser and Strauss, each stage of data generation informs the successive stage until the analysis is over (Glaser & Strauss, 1997). Recommendations were then derived from these new insights.

The first stage of data analysis was used to cluster raw data from questionnaires. This preliminary analysis informed the next phase of data collection, the semi-structured interviews and this intermediate analysis informed workshops from which a final analysis was conducted. Terre-Blanche and Kelly (1999); and Neuman (2000) argue for organising data in order to inform the next phase of inquiry. Neuman (2000) argues that qualitative researchers organise data in categories on the basis of themes, concepts or similar features. The data was then coded according to themes that fell into the same category.

Three major data categories were outlined from the findings of the questionnaires and the same categories were used in analysing the data from questionnaires and workshops. Six sub-categories emerging from the data are listed below:

- ❑ Action and Participation; this category included all the data which was concerned with activities like clubs and other action oriented processes.
- ❑ Administration and Planning; this category grouped all the data which were concerned with celebrating environmental days and also planning the school calendar.
- ❑ Community Interaction; all the activities where the booklet engaged with local communities.
- ❑ Information and Awareness; this category grouped together all activities concerned with generating awareness and providing information.
- ❑ Religious; this category included all the activities with the church and other religious processes.

- Teaching and Learning; all activities engaging the book for teaching and learning purposes.

These categories were regrouped into three major categories of formal education, non-formal education and informal education in the findings of the study.

3.5. Validity and trustworthiness

In order to ensure validity and trustworthiness I have drawn from Lincoln and Guba (1985: 374) who note that:

Completion of the draft case provides a final opportunity to test the credibility of the inquiry report as a whole, with respondents at the case site the purpose is to check accuracy but also provide evidence of credibility - the trustworthiness.

In this research I made the findings available to all those who were involved in the research process to give them an opportunity to check the accuracy of the study. I also did member checking by visiting the schools after analysing the data. This is what Lather (1986) refers to as face validity. Lincoln and Guba (1985) argue for triangulation and rigour for a credible research study when multiple realities reveal the research. Data from questionnaires, interviews and workshops was triangulated to come up with a valid conclusion.

A draft of the research findings was also given to all participants for them to check on accuracy (Lincoln & Guba, 1985). Completion of the draft case provides a final opportunity to test the credibility of the inquiry report as a whole. With respondents at the case site the purpose is to check accuracy but also provide evidence of credibility - the trustworthiness.

3.6. Ethics

Effort was made to check the data against the contributors and make sure that the data concerned have been captured accurately. Where possible, all interviews were verified with the interviewees. Durrheim and Wassenaar (1999) suggest three ethical principles, which I considered during my research:

- Autonomy; respecting the autonomy of all participants to withdraw at any stage and guaranteeing anonymity,
- Nonmaleficence; participants will not be objects of any form of harm and
- Beneficence; it is hoped that the community and society will benefit from the research. The participants in the interviews and workshops found value in the study as it was dealing with a resource that was used in the community and there was a very strong likelihood that the findings will make their work better.

Participating interviewees were asked if they were willing to contribute to this research and all recipients did so willingly. Participants were also asked if their real names could be used in the research findings and none of them objected. Also proper channels of communication were followed in obtaining permission so as not to upset the way things are done at institutions.

Bassey (1999) argues that the three-research ethics principle (democracy, truth and persons) should be considered. Through respect for democracy, the researcher has freedom to ask questions, give and receive information and publish the research findings. The findings of this research will be made available. The researcher should have respect for the truth and the researcher should have respect for persons. According to Bassey, researchers need to respect the origin of the data and ensure the dignity and privacy of the respondents. Cohen *et al.* (2000) also argue that the researcher needs to consider confidentiality.

3.7. Reflections

There were several limitations experienced with each of the research techniques and many of the challenges that emerged were due to inexperience as a new researcher. When I distributed the questionnaires I expected all the participating recipients to be prompt. In the Midlands of KwaZulu-Natal, the first problem was that the questionnaires were very slow to come in even when I personally went round to collect them. The second concern was that they were hurriedly done and in two instances I had to sit down with the recipients and persuade them to include more information. One school failed to return the questionnaire even after I had personally left a third copy, while the other one in Howick returned my third questionnaire without it being filled in. These two denied me the opportunity of a wider variety of samples.

The semi-structured interviews in South Africa were only conducted after the workshop in Harare because NCS were only prepared to allow me to conduct a long interview at the end of July as I intended to spend at least half a day at the school. The experience gained from workshop participants in Lusaka and Harare helped in focusing the interviews to direct uses of the booklet and not the observing of special days in general.

In Zambia, the workshop was allocated the last day of the Conference and there was a poor attendance of only eight people from three countries. I had anticipated up to 15 people from a wider variety of SADC countries. In Zimbabwe the workshop was also poorly attended this time because there was a transport crisis in Harare and there was no public transport that week. However, five participants from four organisations were able to attend and contribute.

3.8. Conclusion

In this chapter I have provided an outline of the research design decisions which informed the research process. I went on to describe how the data generation techniques were used and how these complemented each other in the process of data analysis in a quest to answer the research question.

The main emphasis of the chapter was the discussion on the theoretical framework informing the study, the context in which it was taken and the research techniques used to generate data. The way in which this orientation influenced research design decisions, as guided by the interest in the development and use of teaching and learning support materials in southern Africa, was also discussed. I also explained how each data generation technique influenced data analysis and the planning of the next technique, the development of data analysis layers (Cohen *et al.*, 2000), coding techniques, and the merging of themes and sub-themes.

In the next chapter I will outline and share the main findings of this study. This will reflect on the relationship between the development and use of the teaching and learning support material *A Year of Special Days*, in southern Africa.

Chapter 4 – Unpacking Development and Use of the Resource Material: A Year of Special Days

4.1. Introduction

In this chapter I will outline my research findings and how I arrived at the emerging categories related to the development and use of the teaching and learning support material, *A Year of Special Days* in South Africa, Zimbabwe and six other countries in southern Africa. As explained in Chapter Three, each layer of data analysis informed upcoming data generation techniques, and also established thematic categories. The findings emerging from questionnaires were used to develop the first broad categories, which were then refined with each successive layer of analysis, which are reflected in a diagram of the development and use of the booklet (see Figure 3.1 in section 3.4.1). The diagrams 4.1; 4.2 and 4.3 that follow were constructed using information emerging from questionnaires, semi-structured interviews and workshops. Insights emerging from this data were then used to come up with the thematic categories which will be discussed here. Chapter Five will examine this data further and probe deeper into the specific features of the development and use of the booklet.

I begin by discussing how the categories were established and then follow this up with a detailed discussion on each analytical process leading to emerging categories. During the initial process of data analysis from South African questionnaires, I realised that information on what the learners are actually doing where the booklet is in use was shallow. Also, information on what is working well in using the booklet was not clear enough. When planning the semi-structured interviews and workshops, I was therefore able to include a question which would probe these issues and tease out information from the recipients.

After receiving comments from people who were using the booklet and also from the original developer, email and face-to-face interviews were conducted with Jim Taylor and Kim Ward, both of whom were instrumental in the development of the first booklet. These were done in order to clarify issues that were raised concerning the changes that were made to the original booklet. The data from South African questionnaires led to further refinement of the interview questions with a specific focus on bringing out what the teachers and learners are actually doing as I tried to solicit information on tangible activities which

showed the use of the booklet. This was effectively used at Nottingham Road Combined School in the Midlands of KwaZulu-Natal (KZN) where the booklet is being used as an organiser for the development of their school year planner.

The workshop at the EEASA Conference in Lusaka was held after a preliminary analysis of some questionnaire responses from South Africa. In the workshop I included discussion on what is working well in the countries where the booklet or environmental calendar is being used. The workshop in Zimbabwe then followed a week later and I was able to use the same strategy, but slightly modified to suit the context.

The interviews conducted at Environment Africa (E Africa) and the Secondary School Teacher Training Environmental Education Programme (STTEEP) workshop, did not use specific questions but rather semi-structured interviews. The same technique was used at Nottingham Road Combined School in South Africa. I wanted the educators to draw on their experience with their learners and so to present information on how the learners are working with the booklet. My interviews concentrated on probing areas that I found to have been superficially covered in the questionnaires. Table 1 below shows the three stages in data analysis, which followed after each data generation technique. Questionnaire responses were summarised before they were refined into an analytic memo 01, (see Appendix 3), which then showed the emerging categories (Bassey, 1999).

Table 4.1: Levels of data analysis

LEVEL 1 RESPONSES	LEVEL 2 SUMMARIES	LEVEL 3 MEMOS	LEVEL 4 FINDINGS
Questionnaire Responses (QR 01) Author (QR 02) Developers (QR 03) Users	Questionnaire Summary (QS 01) (QS02)	Analytical Memo (AM 01)	} Research Findings (RF)
Interview Responses (IR 01) NCS (IR 02) SA (IR 03) ZIM	Interview Summary (IS 01) (IS 02)	Analytical Memo (AM 02)	
Workshop Responses (WR 01) EEASA (WR 02) Harare	Workshop Summary (WS)	Analytical Memo (AM 03)	

The same categories from questionnaires were used in the next stage, i.e. interview responses which were summarised and refined into an analytic memo 02, (see Appendix 6) and the workshop data from EEASA and Zimbabwe was summarised and then refined into an analytic memo 03, (see Appendix 9). The emerging themes shown in the analytic memos (AM 01, AM 02 & AM 03) were analysed further to come up with the final findings (FF) processed from questionnaires, semi-structured interviews and workshops.

4.2. Data analysis

The first stage of data analysis was the transcription of the responses obtained from the questionnaires. First, transcription involved capturing all the responses exactly as they were given and recording them under the questions they were responding to (see Appendix 01 and 02). Although some of the information captured was seen to be irrelevant in answering my research question, it was still recorded in order to keep originality at this stage. Also noted was that some of the questions asked were not necessary, as the answers that were given did not help in addressing the research question. All the data captured from questionnaires was further summarised to come up with questionnaire summaries (see Appendix 2). Summaries in Appendix 2 (QS 01 (a), QS 01 (b) and QS 02) show data summarised from respondents, i.e. developers and users of the booklet. The analysis of the questionnaires was later summarised in an analytic memo (AM 01, see Appendix 3) where I used a format which was emerging from the data. (See Section 4.2.2.).

4.2.1. A tracking profile

Preliminary data generation was recorded in the research journal. I was able to source different versions of the booklet which have been developed and redeveloped in South Africa and other SADC countries. This information was generated from environmental educators visiting the SADC Centre in Howick. I was also able to take advantage of the EEASA Conference where I recorded informal interviews and conversations in a research journal (see Section 3.3.4). Versions of the booklet were tracked and located in five SADC countries; Angola, South Africa, Tanzania, Zambia and Zimbabwe. In two countries, Botswana and Namibia, the special days have been adopted in the form of an environmental calendar or year planner. In Mauritius, the special days have been adapted into a poster, which is referred to as the Do's, and Don'ts

poster. This poster was designed in such a way as to highlight the positive environmental practices as opposed to the negative ones. (See Appendix 4, IR 04.)

The first edition of the booklet *A Year of Special Days* published in December 1996 carried the main theme, "Justice Peace and Environment" with a sub-theme, "Readings, prayers and resource materials for community and celebrating special days". This theme was kept for the next seven years. The quotation below shows the author's original intention.

The UN and South African Special days offered a simple opportunity to combine justice, peace and environment issues in an informative booklet which, in this case, is designed for Christian communities. (See Appendix 1 {QR 01 (a)}).

In the original booklet each special day was accompanied by a Bible verse, which was relevant for commemoration. There were no probing questions for further investigation but instead there were opportunities to read more about the day in the Bible links provided. The booklet was clearly designed to enrich Bible understanding while at the same time environmental learning was taking place. In all, 27 national and international days were remembered in this first edition.

Up until 1998 the booklet carried the same theme and content but this time with additional links to Share-Net resources for teaching and learning. At this point the use of the booklet was shifting from an informal faith oriented resource to a more formal school environmental learning orientation. In 2000 more social commemorations like family and youth days were incorporated. This was the last edition printed with Christian prayers. The links to Share-Net resource materials was getting stronger and inserts for prayer verses could be provided on request.

The sub-theme of the book, "Readings, prayers and resource materials for community and celebrating special days" which had accompanied the main theme, "Justice Peace and Environment", was dropped and in its place came another sub-theme, "Commemoration and celebrating special days in the year 2002". This was also the last edition to carry a sub-theme; there were no prayers and the links to related resources for further research was strengthened. Also included were links to the internet and possible networking partners.

The main theme, "Justice, Peace and the Environment" was dropped for the first time in 2003 and in its place Share-Net used, "International Year of Freshwater". The booklet now had 46 special days to be commemorated and by now it had found its way into the SADC region through professional development encounters at the SADC Centre. The booklet was also responding to the challenges of becoming an international resource material for environmental education, by adopting the international days declared by the UN, i.e., the "International Year of Rice" in 2004, and the "International Year of Micro Credit" in 2005. Figure 4.1 below shows the use of different versions of the booklet, calendar or poster in southern Africa as in June 2005.

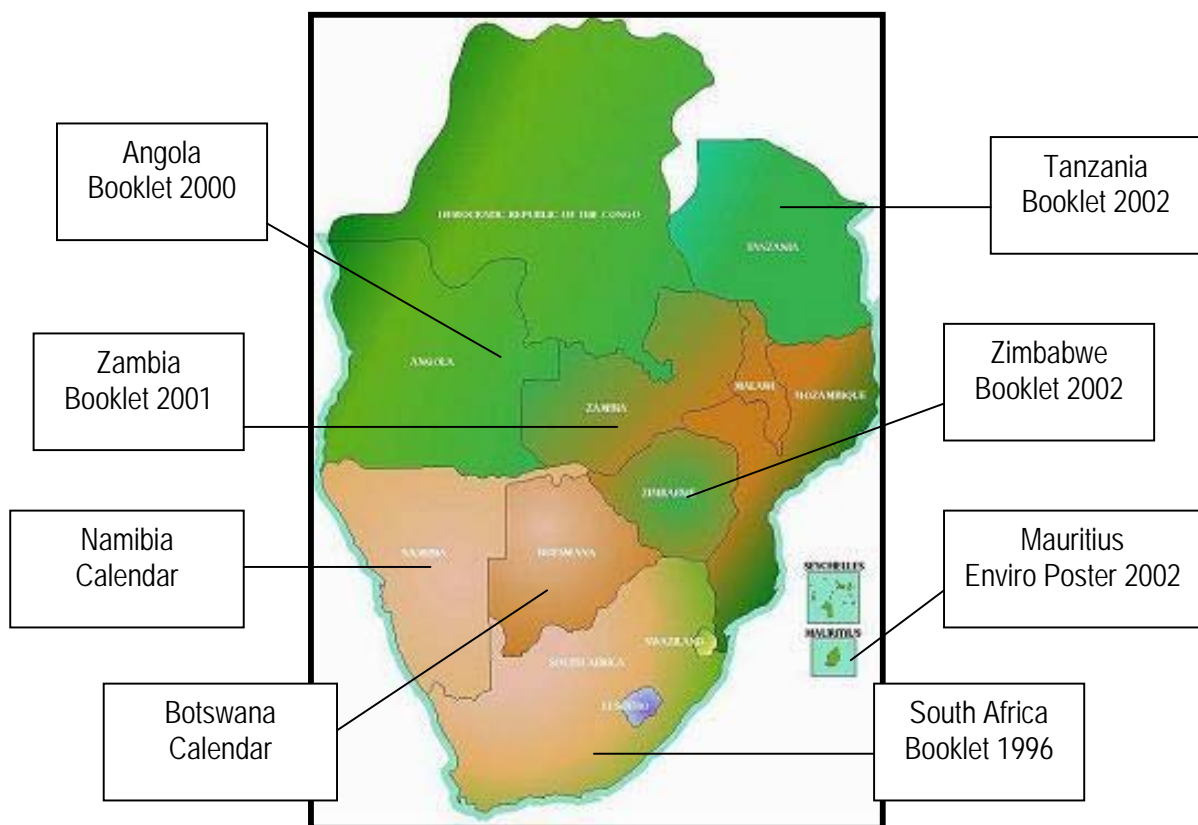


Figure 4.1: Use of the booklet and calendar in southern Africa; June 2005

Three important developments are prominent in the initial scan of the changes in the development of the booklet. First, the non-formal religious focus shifted to become formal environmental education resource material; secondly, the focus shifted from national to a regional resource; and thirdly, there was a shift from

an information and awareness booklet it become a starting point for investigating issues around special days.

In South Africa the booklet has been adapted by Share-Net whose first adaptation was in 1998, two years after the first impression. The Department of Education modified it into an activity booklet with only six special days supporting Outcome Based Education (OBE) in 2000 to suit the context of diverse cultures in the South African Education system. Others like the Durban City Council and the Cape Action for People and the Environment have also adapted and adopted the booklet respectively for their contexts. In the SADC region the booklet has been developed in Zambia, (for information and prayers), Angola; (information and awareness), Zimbabwe, (information and formal education), and Tanzania; (information and prayers which include verses from the Quoran). In East Africa it has been developed for Kenya. It has been used as a calendar in Namibia and Botswana while in Mauritius they adapted it into a poster. I will now give a brief description of the indicators that I used to identify actual use of the booklet.

4.2.2. Indications of use of the resource material

It was important to ascertain the use of the booklet by considering some indicators to avoid token mentioning of the use of the booklet. Occasions where the teaching and learning support materials were successfully and effectively used were identified through the following research indicators; any one of the following indicated valid uses of the booklet, *A Year of Special Days*:

- ❑ Is the teaching and learning support material present in the school/institution? Can it be found at the school or organisation and are teachers/educators familiar with it. Sometimes the condition of the booklet indicated extensive use when inspected.
- ❑ The presence of an environmental policy which draws on the special days booklet.
- ❑ A calendar of events in the school year plan, which identified the special days from the booklet and suggested activities.
- ❑ Reference to actual text from the book in lesson plans and other official teaching notes.
- ❑ Teaching materials photo copied from the booklet and evidence of reference from lesson plans.
- ❑ Lesson plans drawing on special days for use in the classroom or for assignments/activity work by learners.
- ❑ Plan of action for community work which includes the environmental calendar days.
- ❑ Actual reference on the organisation's reports or management plan.

- The presence of the booklet and or calendar in the organisation.

An example of power relations at NCS were seen to affect the participants of my semi-structured interviews as the teachers viewed me as a representative of the authorities and wanted to impress and tended to exaggerate about the use of the booklet. Because I was from WESSA, and I was wearing a WESSA shirt, the school teachers saw me as if I had come to assess their eco-school status. I spent time explaining myself to the teachers and made sure that they were at ease before the actual interviews were conducted. I therefore spent part of the morning talking to the management committee and the principal and then I conducted the interviews later that morning when they were at ease (see 3.4.1). The reality was that the booklet was indeed being used but not necessarily in the ways that were initially described. The booklet was indeed used in lesson plans, the school environment policy and the school year plan. The next section will explain the categories into which the research outcomes were finally grouped.

4.2.3. Data categories

The categories emerging from why the booklet was developed and how it is being used were consolidated into three themes of formal education; non-formal education and informal education (see also 3.4.1). Where these three terms appear in this thesis they are interpreted according to the following explanations. Formal education combines all responses concerning activities within the hierarchically structured and chronologically graded education system, running from primary school through to tertiary level and includes, in addition to general academic studies, a variety of specialised programmes like sport and other extra curricula activities. Non-formal education combines all organised educational activities outside the established formal school system whether operating separately or as an important feature of some broader activity i.e. intended to serve identifiable learning clientele and learning objectives. Informal education includes all activities where individuals acquire attitudes, values, skills and knowledge from daily experience and the educative influences and resources in their environment, i.e. from family and community, from work and play, from the market place, the library and the mass media (Smith, 2005).

Figure 4.2 below illustrates the different institutions where the booklet is being used in various forms in South Africa, Zimbabwe and other southern African countries.

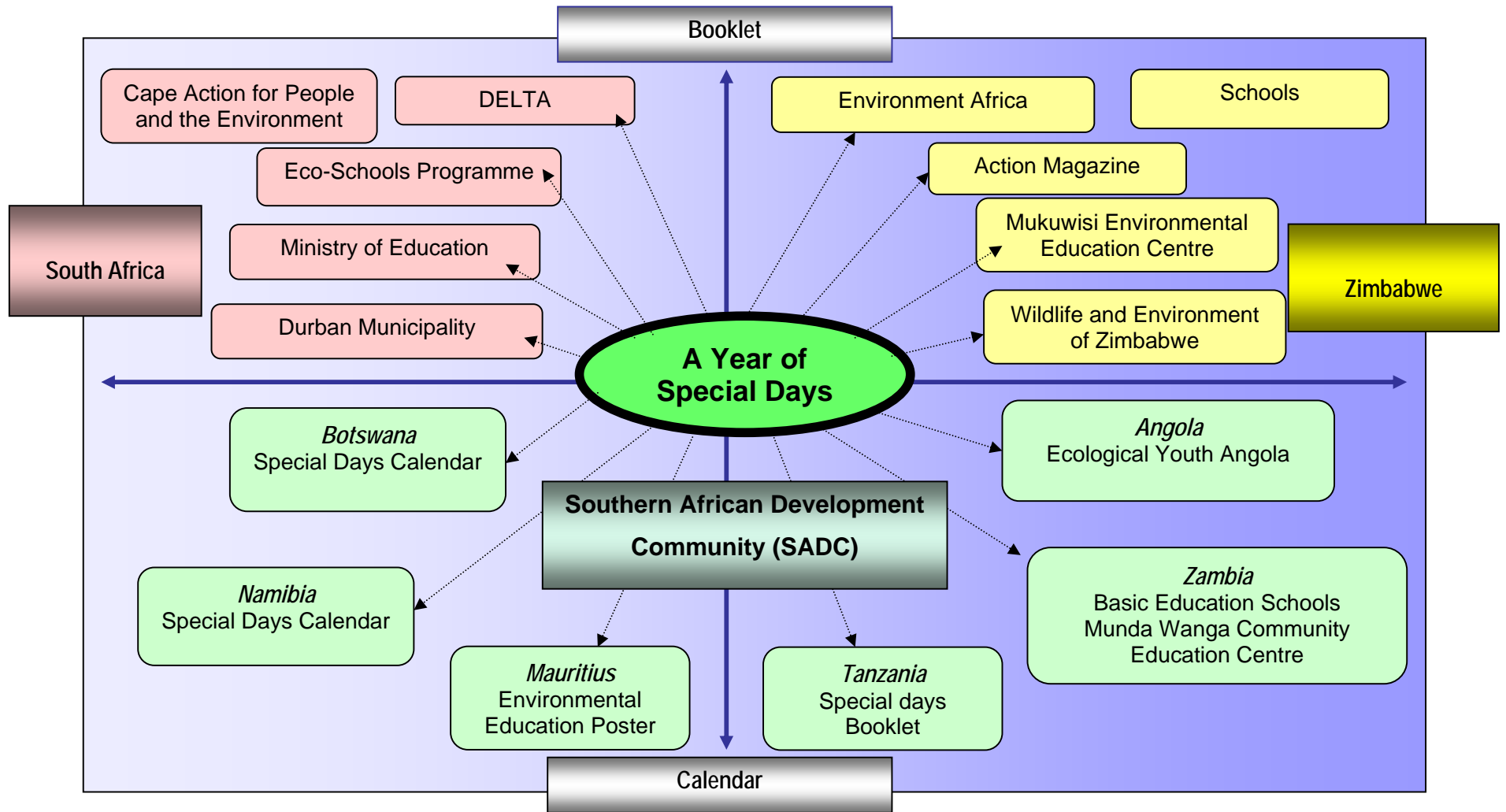


Figure 4.2: Tracking diagram illustrating who is using the booklet and /or calendar

4.3. Data emerging from questionnaire responses

I now proceed to describe the data emerging from the questionnaires completed by developers of the booklet in South Africa and Zimbabwe. I will also describe the data emerging from questionnaires from eight South African Schools who are using the booklet. As seen in Tables 4.2 to 4.3 that follow, three data categories from the developers and users of the booklet were consistent (see Section 4.2.2).

4.3.1. South Africa questionnaire response from Davies {{QR 01(a)}}

When Kate Davies developed the booklet, *A Year of Special Days*, it was meant to be a simple guide to special days in the South African calendar. She researched and wrote the descriptions of the special days, but collaborated with her husband, an Anglican Bishop, and two Mennonite volunteers who were working with them on sustainable agriculture and land use projects in the Diocese of Umzimvubu in the Transkei. She felt it needed to be a collaborative effort as she did not have a broad working knowledge of biblical texts, nor did she have the resources or experience to compile the prayers. (see Appendix 1, {IR 01 (a)}).

The booklet was initially developed to inform the Anglican Church and the community that Davies and her husband were working with in a project with communities in the Eastern Cape. The desire was to bridge the gap between the church and environmental education. When I asked what her intentions were, she was inclined to think that she had developed the booklet for schools and said this because of the way it is being used now. However, she retracted on this when she sought evidence from what she had written in 1996.

It is nine years since I originally put the booklet together. Being asked the question now - why I developed the resource I thought I had intended it for use by schools and faith groups (in particular a Christian context because the prayers and readings were essentially Judeo-Christian). In looking back on my reflections, written in November 1996, I see with great interest, that I did not mention schools at all! I know I had hoped to include prayers and readings from other faith contexts because I have always felt strongly that the world is not partisan. Caring for the environment is one area that the human race, of all faiths and creeds, ought to be able to co-operate over! {{QR 01(a)} (Davies, K. Pers. Comm., March, 2005).

It is also interesting to note that at this stage Davies was aware of the need to expand to other faith communities in order to involve more people. This is in line with the common belief that issues of the environment will not be accomplished if people do not work with others. Davies goes on to say:

Environmental issues cannot be seen in isolation. This little book attempts to give a brief history and explain the social, political, economic and ecological concerns that are highlighted in our calendar year. It was intended to help raise the general level of consciousness about the interconnectedness of all justice issues in a faith context. At this time, many in the Christian community in South Africa have been caught up in the struggle for socio-political justice and transformation. I knew that if I developed any resource for the Christian Church it would need to embrace both socio-political and ecological concerns. It could be a way of bringing the 'green' and the 'brown' perspectives together. (*ibid.*)

Davies strongly believes that most members of faith communities need simple, non-specialist and easily accessible low cost information about environmental issues. She goes on to say, "They do not need academic theses or long-winded policy documents or instructions couched in theological language. They also don't need emotional and sometimes irrational appeals or petitions. The UN and South African Special days offered a simple opportunity to combine justice, peace and environment issues in an informative booklet which, in this case, is designed for Christian communities." (*ibid.*)

Although Davies nurtured all these ideas, she believes that she lost control of the real purpose for developing the booklet once it got to the publishers. "The purpose of the booklet was taken out of my hands once it reached the shelves of Share-Net. However, copies were sent out to all the member churches of the South African Council of Churches (SACC) and I believe to all Anglican parishes in South Africa". (*Ibid*) She still hopes to get involved in the redevelopment of the booklet for the faith community.

If she were to rework the resource, Davies would do a companion booklet for faith communities with texts, readings and prayers from many different faiths including stories from African traditional religions. As shall be seen in the next section on use of the book, the strong Christian bias was the main weakness of the booklet.

As shown in Table 4.2.1, Davies's booklet was developed mainly for the informal sector of education where the Anglican Church was the main partner. Two main categories under the informal education sector were then separated into the Anglican Church outreach education and schools working with communities. Five sub-categories emerged from Davies's questionnaire responses namely: Christian education, school community outreach, commemoration of special days, creating environmental awareness and initiating participation in environmental action (see Table 4.2.1 below). Davies's booklet was therefore developed for

informal education within the Anglican Church working with communities and schools; and also schools working with communities. These categories will be carried forward as my investigation extended further to Share-Net who was responsible for developing, redeveloping and adapting the booklet.

Table 4.2.1: Emerging categories from Davies; (in theory) (QS 01 (a))

Categories of Intended Use	Sub-Categories of Intended Use
Non-Formal Education <input type="checkbox"/> Anglican Church / Christian Faith <input type="checkbox"/> Schools working with communities	<input type="checkbox"/> Christian Faith Education
	<input type="checkbox"/> School Community Outreach
	<input type="checkbox"/> Commemoration of Special Days
	<input type="checkbox"/> Information and Awareness
	<input type="checkbox"/> Participation in Conservation

4.3.2. South Africa questionnaire response from Share-Net {(QR 01(b))}

Share-Net is a non-profit organisation which develops and publishes low cost environmental education materials for environmental educators in South Africa and the SADC region. Peddie, manager of Share-Net had this to say, "Our contributions include updating the booklet on an annual basis, adding in relevant or new days/weeks if appropriate, revising the 'guiding questions etc" (see Appendix 1 {(QR 01(b))} (Davies 2005 pers. Comm., February, 2005)

Jim Taylor who is the Director of Education at SADC REEP was involved with the development of the booklet while Davies was working on the original booklet. According to Taylor, the booklet was developed for teachers, community workers, NGOs and Government departments (Taylor Pers. Comm., February 2005).

Kim Ward, who was Davies's tutor when she was developing the booklet as an assignment for the Goldfields EE course, agrees with Davies's initial intentions when she said "Davies's main idea for developing the booklet, as the wife of an Anglican bishop and working with local schools in Kokstad, was to support schools to celebrate environmental days and a short prayer and bible reading was included for each day. Christian schools found these readings and prayers very helpful for assemblies" (see Appendix 1 {(QR 01 (b))} (Ward Pers. Comm., February, 2005).

The booklet being developed by Share-Net today has a much wider audience and the main aim for its development is to support better planning and action for special days in the formal education sector. It is an extremely useful planning tool for schools to use when planning for the year. Ward had this to say, "We get numerous requests to Share-Net each year from October onwards for an updated version for the following year as this is when schools start planning" (Ward Pers. comm., February, 2005). Peddie supported this by saying, "We now need to have the booklet ready by November of the previous year as teachers request it for the following year to start organising days and events. It is now also part of the Eco-Schools Toolkit; with one of the focus areas of the Eco-Schools programme being environmental days" (Peddie Pers. comm., February 2005). From what Ward and Peddie said it is clear that the booklet is now being developed for schools to work with as a planning tool.

Table 4.2.2 below shows that the Share-Net booklet is developed for two major categories i.e. the Formal and the Informal education sectors and both of them are targeting schools. Four sub-categories emerged from the Formal education sector and these are school administration and planning, teaching and learning, whole school development and Christian education within the schools. In the Non-Formal sector there emerged three sub-categories, i.e. commemoration of special days, providing information and awareness and initiating participation in conservation and other environmental issues.

Table 4.2.2: Emerging categories from Share-Net; (in theory) {QS 01 (b)}

Categories of Intended Use	Sub-Categories of Intended Use
Formal Education <input type="checkbox"/> Schools	<input type="checkbox"/> Administration and Planning
	<input type="checkbox"/> Teaching and Learning
	<input type="checkbox"/> Whole School Development (Eco-schools)
	<input type="checkbox"/> Christian Faith Education
Non-Formal Education <input type="checkbox"/> Schools	<input type="checkbox"/> Commemoration of Special Days
	<input type="checkbox"/> Information and Awareness
	<input type="checkbox"/> Participation in Conservation

The theoretical background as to how the booklet *A Year of Special Days* was developed in South Africa was therefore based on the information from the two main sources above, i.e. Davies and Share-Net staff, which have developed and redeveloped it every year for distribution to environmental educators in South Africa and elsewhere in the SADC Region.

Table 4.2.3 below shows two broad categories which have been carried forward i.e. the Formal and Non-Formal sectors in education and these have been split further into a total of five sub-categories (whole school improvement is combined with teaching and learning while participation and conservation is included with commemoration of special days).

Table 4.2.3: Reasons for developing booklet; South Africa; (in theory) {QS 01 (b)}

Categories of Intended Use	Sub-Categories of Intended Use What for?	How?
Formal Education □ Schools	□ Administration and Planning	As a planning Toolkit for Special Days
	□ Teaching and Learning	To assist school assembly
	□ Whole School Development (Eco-schools)	To support Christian religious education and school assembly
Non-Formal Education □ Anglican Church / Christian Faith □ Schools working with communities	□ Commemoration of Special Days	Assist schools and communities in commemoration activities
	□ Participation in Conservation	
	□ Information and Awareness	To provide information on special days
	□ School Community Outreach	Assist communities working with schools
	□ Participation in Conservation	Assist NGOs working with schools and communities

According to Davies, the booklet was developed in order to support environmental education in the Non-Formal sector of education mainly for the Anglican Church. On the other hand the Share-Net booklet, which was adapted from Davies's version, was developed for schools to work with both the Formal and Non-Formal education sectors. Table 4.2.3 above shows how the intended uses of the booklet have been categorised. I will now describe the reasons behind developing the Zimbabwean version of the booklet.

4.3.3. Zimbabwe questionnaire responses from developers {QR 01 (c)}

The Zimbabwean version of the booklet *A Year of Special Day* was developed by a Special Days committee, coordinated from *Action Magazine* which was the secretariat hosting the Environmental Liaison Forum (ELF) of the Zimbabwe taskforce on special days. This taskforce was comprised of an assortment of people who make up the ELF of Zimbabwe i.e., Government Departments, schools, NGOs, EE centres and others. Two key persons, Naison Bhunu and Clayton Zazu, who were involved in the development of the original booklet provided information through questionnaires. Bhunu, the project manager for *Action*

Magazine, was the chairman of the committee and therefore part of the special advisory team. His organisation, *Action Magazine*, produced the design and provided the paper for the first copies, which was produced by the magazine in-house. Zazu, now working for the Sebakwe Conservation Trust, was part of the editorial team which adapted the booklet to suit the Zimbabwean context. He was also involved in providing write-ups and the proof reading of the booklet. At that time Zazu was working for Birdlife Zimbabwe, a conservation organisation working with the Mukuwisi EE centre in Zimbabwe.

According to Bhunu, the Zimbabwean booklet was developed for NGO field officers and teachers working with schools and communities. It was also developed for the government especially for the Ministries of Education and that of Environment and Tourism. The booklet was also targeting civil servants, the media and extension workers. The slant was however towards schools, for the teachers working with learners in EE. According to Zazu, during development it was obvious that the users of the booklet were going to be schools in the formal education sector, and other beneficiaries would be local government municipalities, the city councils and all organisations working in the environmental field in Zimbabwe (see Appendix 1 {QR 01 (b)}).

This booklet was developed so as to highlight and raise awareness of environmental issues through special days and also to provide information on the special days. Bhunu had this to say, "We also hoped it would influence policy when planning for the year and work towards changing perceptions on environmental issues" (Bhunu, Pers. Comm., May 24, 2005). Zazu supports this by saying that the aim was to create public awareness on the special environmental days in Zimbabwe as well as to help schools, organisations and individuals with interests in environmental issues, to plan for the commemoration of particular special days. The booklet was meant to be a planning tool (Zazu, Pers. Comm. March 05, 2005) {QR 01(b)}.

Three broad categories were emerging from the Zimbabwean data, i.e. Formal, Non-Formal and Informal education. There were three sub-categories, which included administration and planning, teaching and learning, and commemoration of special days under Formal education; three sub-categories under non-Formal, i.e. commemoration of special days, information and awareness, and participation in conservation. There is also the Informal sector, which had the sub-categories of commemoration of special days, information and awareness, and participation in conservation. The booklet for Zimbabwe was adapted after the South African version had been tried and tested and had been seen to work well with schools and

hence the obvious thrust to target schools and, at the same time, making sure that the organisations working with schools were also catered for. Table 4.3 below shows data categories emerging from Zimbabwe.

Table 4.3: Zimbabwean developers adaptation; (in theory) (QS 02)

Categories of Intended Use	Sub-Categories of Intended Use	How?
Formal Education ☐ Schools and Colleges	☐ Administration and Planning	To support policy
	☐ Teaching and Learning	To assist in planning lessons
	☐ Commemoration of Special days	To assist schools commemorating special days
	☐ School Community Outreach	To assist communities working with schools
Non-Formal Education ☐ EE Centres ☐ Schools working with communities	☐ Commemoration of Special Days	To assist schools and communities in commemoration activities
	☐ Information and Awareness	To provide information on special days
	☐ Participation in Conservation	To assist NGOs working with schools and communities
Informal Education ☐ Local Government ☐ Communities ☐ The Media	☐ School Community Outreach	To assist communities working with schools
	☐ Commemoration of Special Days	To assist schools and communities in commemoration activities
	☐ Participation in Conservation	To assist NGOs working with schools and communities
	☐ Information and Awareness	To provide information on special days
	☐ Participation in Conservation	To assist NGOs working with schools and communities

4.3.4. South Africa questionnaire response from schools: (QR 02)

Eight questionnaires were used to compile the responses on how the booklet is being used in the South Africa context. I will go on to describe who is using the booklet before outlining how they are using it. Emerging data has revealed that the major users of the data are the teachers and the learners in the schools. Also using the booklet are environment clubs who consult the special days calendar. Masisebenzisane is a community organisation, which is also working with the special days calendar together with the EE club at Injoloba Secondary School (See Appendix 1, QR 02.)

At Howick High School, the calendar showing the commemorative days is displayed in the staff marking room to provide information for teachers for their planning and for making quick reference for their teaching.

The booklet also provides a base from which preparations for celebrating various holidays or special days at school assemblies or in environmental club meetings are planned. The calendar in the middle of the book is used to identify special days to be celebrated in the school so that schools are able to prepare in advance.

The booklet has also been found to be a useful tool for lesson preparation. In classroom work the booklet is used as a reference for researching assignments and projects as part of schoolwork. Reading activities and lessons issued to learners through handouts photocopied from the booklet are also in use at schools like Hawkstone. The environmental education work started at school is also carried forward into practical work during the special days' commemoration week, as in this example from Howick High School, "For National water week the grade 8s monitored water consumption in their homes, drew graphs of this, which initiated interesting discussions at school. The Geography department made pupils aware of droughts, dam levels, water disasters etc". (see Appendix 1; *ibid.*).

Schools are still using the prayers, which were in the earlier versions of the booklet, and they find these very helpful as in the case of Scottsville Primary School, "We teach biblical principles at school and every week we highlight one". Epworth High School in Pietermaritzburg had this to say, "The secretary sometimes puts information about special days in the daily notices that are read by the teachers and learners on a daily basis e.g. Youth Day, Earth Day, Abor Day, etc. The chaplain sometimes makes reference to special days in her stories and chapel service" (see Appendix 1; *ibid.*).

Four main uses have been identified from the data collected from the Midlands schools through questionnaires, i.e. commemoration of special days, reference by teachers and learners for school research activities, reference by teachers for planning lessons and prayer reference for the school assembly and other biblical references.

Table 4.4.1 (a) below shows the two categories of use which have emerged from the data. These are Formal education and Non-formal education. Under Formal education there were five consistent sub-categories, namely, administration and planning, teaching and learning, commemoration of special days, Christian education and participation in conservation. Under Non-Formal two sub-categories were identified as: commemoration of special days and schools working with communities. The next section will describe how the booklet is being used in Zimbabwe.

Table 4.4.1: South African users; schools; (in practice) (QS 02)

Categories of Use	Sub-Categories of Actual Use
Formal Education <input type="checkbox"/> Schools and	<input type="checkbox"/> Administration and planning
	<input type="checkbox"/> Teaching and Learning
	<input type="checkbox"/> Commemoration of Special Days
	<input type="checkbox"/> Christian Education
	<input type="checkbox"/> Participation in Conservation
Non-Formal <input type="checkbox"/> Environmental education clubs	<input type="checkbox"/> Commemoration of Special Days
	<input type="checkbox"/> Schools working with communities

4.3.5. Zimbabwe questionnaire responses from users (QR 02)

In Zimbabwe, information coming from questionnaires revealed that school teachers at Sebakwe Primary School were using the booklet *A Year of Special Days*. Also making reference to it at the school are EE clubs, peer education and interact clubs in other schools. At Sebakwe Primary School, the booklet is used to plan for school-based activities to mark special environmental days like World Clean-up Day or Ozone Day. Table 4.4.2 shows that only the Formal education category was identified by this recipient as the main use with the two sub-categories of administration and planning, and commemoration of special days.

Table 4.4.2: Zimbabwean users; schools; (in practice) (QS 02)

Categories of Use	Sub-Categories of Actual Use
Formal Education <input type="checkbox"/> Schools and <input type="checkbox"/> School Clubs	<input type="checkbox"/> Administration and planning
	<input type="checkbox"/> Commemoration of Special Days

4.4. Data emerging from interview responses (IR 02)

I now describe how information generated from semi-structured interviews was analysed so as to arrive at conclusive categories of use. I will describe the analysis of semi-structured interviews carried out in South Africa first before proceeding to the data generated in Zimbabwe.

Two sets of semi-structured interviews were conducted, one at Nottingham Combined Schools (NCS), a peri-urban school in the Midlands of KwaZulu-Natal (see Appendix 2 (IR 02)), and another with two

educators from DELTA Environmental Centre in Gauteng (see Appendix 2 (IR 03)). I managed to spend the whole day at Nottingham Combined School where I was able to interview the school principal and two members of the school management committee. The school has chosen to work with the school environmental calendar as part of their eco-schools project and the booklet *A Year of Special Days* is used as a tool in part of their annual planning. The second interview was conducted with Presha Ramsurup and Andrew Mathabathe who used the booklet in teacher education when they were working for the DELTA Environmental Centre. I will discuss the interview with Nottingham Combined School first.

4.4.1. South Africa interview response from NCS (IR 02)

The school management committee was interviewed first and two teachers represented it. They both concurred that teachers and the learners are using the booklet mainly for planning activities associated with special days. The school management committee at NCS is comprised of three teachers and two learners.

The school was introduced to the eco-schools programme this year and they have achieved much in these few months. They are working with three focus areas, i.e. a healthy environment, school calendar, and school grounds and fieldwork. The school has an environmental policy and each grade or class has developed their own class policy from the school policy, which is pinned up in the classroom in order to remind learners of their environmental responsibility on a daily basis. The school year plan also uses the special days calendar as the days earmarked for celebration are also included and each day is assigned to a different teacher who coordinates the preparations and commemorations. All the lessons planned for that week with the focus on that special day are placed in a box and these reflect work towards the theme of that week (see Appendix 4 (IR 02(b))).

My main interest was in what the teachers and learners are actually doing in environmental learning as they engaged with the idea of special days. The principal of NCS is convinced that working with the eco-schools focus areas has improved environmental learning in the school. He had this to say, "Before the whole school development programme started, this school was bare soil only and there was dust everywhere. Teachers and learners at the school decided to grow grass and it is green now. We can now use the school grounds as a playing field for the children." (Pers. Comm., August 2005). He also said the following about the learners in the school.

Our learners are the initiators of all the environmental projects in the school. They come up with possible solution to the problems that they cite in the school. They have proposed to build a bridge across the wetland and this is a good example of how the learners came up with a solution to their challenges. (The wetland between the school and the ablution block floods when it rains.) The learners have also written a letter to a local cement manufacturing company, PPC Cement, requesting cement bags, which they intend to use for building the bridge across the wetland. The learners have approached the local forester who has pledged to support them with planks and logs with which to build the bridge. The local garage has been supplying us with empty drums, which we use as rubbish bins. (Appendix 4 {IR 02(b)}) (Principal NCS Pers. Comm., August 2005)

The school is working well with the neighbours and other partners surrounding them to enhance the work that they have started. One example is that of Mr. Ndlovu the local inyanga (traditional healer) who is working with the school on a tree-planting project. He introduced traditional medicinal plants and some of the flowers grown at the school are traditional plants, which are also medicinal. He often comes to the school and has advised teachers and learners on the treatment of simple ailments using the herbs e.g. small cuts and burns. He also comes to the school to advise on alien plants.

Another community organisation called Shosholoza AIDS Project has committed itself to work with the school in providing fruit trees, which they are planting in the school grounds. Shosholoza is working in the local community to provide fruit trees, which provide a healthy supplementary diet. The Midlands Education Trust has been involved in training teachers in organic agriculture. They are encouraging the school to grow vegetables and other plants using inexpensive organic manure, which they can make, at the school. (Trianda and Hawkstone schools also cite this in the questionnaires.) (See Appendix 2 {QS 01 (b)}.)

The principal says he has noticed many changes in the learners since the school started working with the calendar of special days. He said the learners have started to become interested in nature and now they appreciate wildlife. In the past they used to kill animals like birds but now they want to protect them because they associate them with the wetland. They can use the resources from the school environment, for example collecting leaves from outside for their lessons. In the past they had to bring samples like leaves from home because there were no trees at the schools.

According to the principal, the learners at NCS are now at the forefront of the all the environmental projects and the teachers are only there to guide them. This did not happen before they started working on this project of school improvement. The learners are the ones who come up with ideas and suggest possibilities

to alleviate the problems e.g. the problem of soil erosion at the school which learners identified and then suggested various solutions like planting grass. This is all due to learning about the environment, which has changed them.

Formal and Non-Formal education were very clearly the main data categories from this interview (see Table 4.5.1 below). Formal education activities are included in the sub-categories: administration and planning, teaching and learning, commemoration of special days, whole school development and participation in conservation. The Non-Formal activities identified were the school community involvement and NGO support from organisations like the Midlands Education Trust (MET), the corporate sector, local farmers and the local traditional healer.

Table 4.5.1: South African users; NCS; (in practice) (IS 01)

Categories of Use	Sub-Categories of Actual Use	What is happening?
Formal Education <input type="checkbox"/> Teachers and <input type="checkbox"/> Learners	<input type="checkbox"/> Administration and planning	School Year Plan
	<input type="checkbox"/> Teaching and Learning	Lesson planning
	<input type="checkbox"/> Commemoration of Special Days	Preparations for the special days
	<input type="checkbox"/> Whole School Development	Garden / wetland / fruit trees
	<input type="checkbox"/> Participation in Conservation	Wetlands project / greening the school
Non-Formal <input type="checkbox"/> School Community <input type="checkbox"/> NGOs	<input type="checkbox"/> Community working with the school	Indigenous trees and medicinal plants
	<input type="checkbox"/> Schools working with communities	

4.4.2. South Africa interview response from DELTA Environmental Centre; (IR 03)

My second interview was based on the work that Ramsurup and Matahabate were doing through DELTA Environmental Centre to provide support in South African schools. DELTA Environmental Centre is involved in teachers' EE workshops, which are organised regularly for both teachers and student teachers at tertiary institutions like colleges of education and universities in the Gauteng region. The objectives of the workshops, among others, are to help teachers share professional ideas and effective classroom practices and experiences for active teaching and learning. Workshop programmes are based on a practical and investigative strategy. Teachers are usually given some "research" work to do, e.g. to identify environmental problems in their schools and the community they serve. Ramsurup and Mathabate were working with the booklet, *A Year of Special Days*, for running the teacher workshops.

Ramsurup related how she was using the booklet as follows, "We also helped schools to develop their school environment policy. A group of teachers could select an issue that they would like to work with. We encouraged them to integrate that issue with the curriculum for use in their teaching. The school environmental education policy pack from Share-Net was used for training and this pack contained the booklet *A Year of Special Days* among other materials." (See Appendix 5 {IS 01(c)}.)

Workshops with schools were run one week before an environmental special day was due to be celebrated or commemorated. This was designed in this way because the environment being used as a phase organiser was a new concept for most of schools and they wanted to engage the learners. The booklet provided a background to each special day, which they used as a phase organiser. All the staff at DELTA also received a copy of the booklet so that they would be familiar with the environmental special days.

Mathabathe had this to say about the use of the book in the schools, "Other teachers complained that the book only contained summaries and struggled to use it for a full learning programme. This was happening in many black schools where teachers expected the booklet to give them more than just a brief summary" (Mathabathe Pers. Comm., July 2005). Schools used this booklet to give learners basic information on what happened on each special day, just enough information to get them started. Teachers also used the book to take the special days into the classroom and not just as an assembly phenomenon, as was the norm with most schools. Table 4.5.2 below shows two data categories of Formal and Non-Formal education emerging from the semi-structured interviews.

Table 4.5.2: South African users; DELTA; (in practice) (IS 01)

Categories of Use	Sub-Categories of Actual Use	How?
Formal Education		
<input type="checkbox"/> Teachers and <input type="checkbox"/> Learners	<input type="checkbox"/> Administration and Planning	School Phase organiser
	<input type="checkbox"/> Teaching and Learning	Lesson planning
	<input type="checkbox"/> Commemoration of Special Days	Workshops
Non-Formal		
<input type="checkbox"/> School Community <input type="checkbox"/> NGOs	<input type="checkbox"/> Community working with the school	
	<input type="checkbox"/> Schools working with communities	Staff orientation at DELTA

In formal education, an interesting use that came out of the administration and planning was using the booklet as a phase organiser. Teaching and learning are the other two sub-categories. In the Informal education categories, two sub-categories were identified as community working with schools and schools working with communities.

4.4.3. Zimbabwe interview responses from Environment Africa (IR 01)

Three semi-structured interviews were held in Zimbabwe with people using the Zimbabwean version of the booklet, *A Year of Special Days* (See Appendix 4 (IR 01). The first interview was held with Barnabas Mawire who is an environmental extensionist working for Environment Africa with communities and schools. Mawire had this to say about how he was using the special days booklet with schools and communities, "I have used the calendar for special environmental days with communities I am working with. I am an extensionist forester by profession and I do a lot of extension work (with communities around Zimbabwe). The groups of people that I work with meet periodically and come up with planning activities with neighbouring schools. They plan for environmental days for activities like poems, to commemorate special days. Communities also consult schools on how they can contribute to the schools on special days." (See Appendix 4 (IR 02).)

Mawire went on to describe success stories of schools he is working with. One such school is Pednor Primary School in Bindura, which has started a plastic recycling project where P. Machanzi the school EE coordinator facilitates the melting of plastics, which are then moulded into corrugated roofing sheets. This project is shared with other schools and the neighbouring communities at the annual meeting of the World Environment Day. This school has also reduced the time that a baobab tree seed takes to germinate from over 100 days under natural conditions in the wild to a few weeks when propagated.

Another example is Tafara High School in Harare who chose the theme "Cry The Beloved Chivero" for their World Environment Day in 2004. This was in support of the clean up exercises that the school was campaigning for. River Chivero is the main supplier of domestic and industrial water in Harare. The calendar has been translocated into school and community projects. Other examples are Mpumbu village in Zvimba Ward 3, where there is a thriving farmer-to-farmer project and Chigondo Ward in Wedza district, Mashonaland East.

Mawire also cites the National Tree Planting Day held on the first Saturday of December as another example, "In the Binga district of the Zambezi valley E Africa in partnership with Spar Supermarket sponsored the local tree nursery. Spar supermarket sponsored the nursery and refreshments during the tree-planting day. E Africa is mobilising the corporate world to work with communities to commemorate special days." (See Appendix four {IR 02(c)}.)

4.4.4. Zimbabwe interview response from Mrs P. Mushayi

The second is a brief interview that I captured during a short visit to my home village in Rusape where I was able to interview one community member who had just been to a World Cultural Day celebration. Schools and communities attended a commemoration meeting at Nerwande School (a central school in the district) in the district of Masvosva. Mrs P. Mushayi had this to say about the day, "Each village was allocated a specific topic to share Indigenous Knowledge with teachers and other communities. At this meeting, our village (Mapfuwa village) was represented by Mrs. Musima who is an expert in traditional clay pots. Other topics of interest were traditional medicines and herbs." A further consultation with a teacher at the school showed that the special days calendar is being used for planning (see Appendix 5 {IS 02(b)}).

4.4.5. Zimbabwe interview response from STTEEP

The third interview was held with lecturers from three secondary school teacher-training colleges at a workshop outside Harare. Mrs. I. Chimbodza is the national coordinator of the Secondary Teacher Training Environmental Education Programme (STTEEP) of Zimbabwe. She said STTEEP mounted an annual display at the World Environment Day expos held at Mukuwisi Woodlands EE Centre in June 2003 and 2004. They are working with the special days calendar. There are environmental education clubs in the three teacher training colleges and all of them observe special days in their planning. One lecturer at Hillside College said that he is using the booklet in planning and research with his students. (See Appendix four {(IS 02 (c)); 42.}

Table 4.6 below shows a summary of how the booklet is being used by schools, colleges, EE centres and NGOs working with communities in Zimbabwe.

Table 4.6: Zimbabwean users; (in practice) (IS 02)

Categories of Use	Sub-Categories of Actual Use	How?
Formal Education		
☐ Schools and colleges	☐ School clubs	Planning activities
	☐ Commemoration	Presentations on environmental days
	☐ Teaching and learning	Reference in lessons
Non-Formal		
☐ EE centres and ☐ NGOs	☐ School and community outreach	Commemoration of environmental days
	☐ Communities	Farmer to farmer programme

4.5. Data emerging from workshop responses (WR)

This section will relate how the data generated from two workshops was refined into data categories; one workshop in Lusaka, Zambia for SADC respondents and the other in Harare, for Zimbabwean respondents. I shall describe the data analysed from the EEASA workshop first.

4.5.1. EEASA workshop responses (WR 01)

The EEASA workshop in Lusaka, Zambia, was timetabled for the last day of the conference and it attracted eight participants from three countries, Namibia, Zambia and Zimbabwe. Participants' responses were numbered from 01 to 08. (See Appendix 7 (WR 01).)

Participants from Zambia identified a booklet version adapted and developed in 2002 and also the special days calendar as being used in the country. In Namibia there is no evidence of the booklet being in use but the environmental calendar on special days was easily identified. (The special days calendar is an adaptation from the centre page of the booklet.) Both the booklet and calendar are being used in many areas like: basic and high schools, community and churches, government ministries, youth groups, environmental education centres and teachers' colleges (see Appendix 7 (WR 01)). The booklet is being used for the following: planning and participation in World Environmental Days, creating environmental awareness, cleaning the towns, sensitisation on the importance of EE, cleaning the school surrounding on

the environment day, engaging communities in protecting environment discussion, and planning activities for learners.

Workshop participants from Zimbabwe cited school visits to environmental centres for commemorating environmental days organised by Wildlife and Environment Zimbabwe (WEZ). At these commemorations, competitions, poems, environmental quizzes and drama on special days are part of the activities. Participant 08 from Zimbabwe said, "The booklet is used by *Action Magazine* for coordinating and developing a brochure on behalf of the Ministry of Environment and Tourism to commemorate the World Environment Day and it is using the booklet to highlight themes and coordinate campaigns. This year celebrations will be held in Mutare" (see Appendix 7 {WOR 01(08)}) (Zimbabwe workshop participant 2005 Pers. Comm., May 2005). The booklet was also used for planning the farmers' calendar produced by the Department of Natural Resources (DNR) and for advocating especially pollution, and clean up campaigns (also cited by Gandiwa in (WR 02 (JG) in Appendix 7).

The data emerging from the Lusaka workshop showed two data categories (see Table 4.7 below). The Formal education had three sub-categories (administration, teaching and learning, and commemorations) and Non-Formal education was divided into three sub-categories, (school community outreach, commemoration, and information and awareness)

Table 4.7: Regional use; (in practice) (WS 01)

Categories of Use	Sub-Categories of Actual Use	How?
Formal Education <input type="checkbox"/> Schools and <input type="checkbox"/> Colleges	<input type="checkbox"/> Administration	Planning school activities
	<input type="checkbox"/> Teaching and Learning	Planning lessons
	<input type="checkbox"/> Commemorations	Participation in special days
Non-Formal Education <input type="checkbox"/> Government Departments <input type="checkbox"/> NGOs	<input type="checkbox"/> School Community outreach	Cleaning towns & surrounds
	<input type="checkbox"/> Commemoration	Sensitising special days
	<input type="checkbox"/> Information and Awareness	Visits to EE centres
		EE centre activities like competitions
	Advocacy	

4.5.2. Zimbabwe workshop responses (WR 02)

A workshop on the booklet *A Year of Special Days* was held at the Curriculum Development Unit (CDU) in Harare, Zimbabwe, which was coordinated by CDU and E Africa The workshop generated data showing

how the booklet is being used by four organisations in Zimbabwe. The workshop attracted five participants from four organisations providing EE in Zimbabwe. I was able to use the same questions from Lusaka, which I modified slightly to suit the Zimbabwean context. Participants for this workshop were drawn from Environment Africa, Mukuwisi Woodlands EE Centre, Department of Natural Resources and Schools and Colleges Permaculture Programme (SCOPE).

The DNR is using the special days calendar with the following organisations; the Ministry of Environment and Tourism, schools, industries and communities. The special days booklet and the environmental calendar is used as a reference book by officers for planning purposes and to orient staff especially new officers and researchers at the DNR. (See also comments from E Africa (BM.) below) The department has developed a farmers' diary using the Zimbabwean version special days booklet developed in 2002. Bhunu in Appendix 1 also cited this.

Mukuwisi Woodlands EE Centre is using the booklet with schools, communities, youths and industry who visit the centre for various purposes. The EE centre takes advantage of the special days to plan and coordinate formal and informal activities when people visit. The centre is host to many schools especially on World Environment Day where schools and colleges come to commemorate the day by displaying exhibitions and taking part in competitions.

Richard Mutsi an environmental education officer with Mukuwisi EE centre, said communities and schools around Marlborough (a residential suburb in Harare) were involved in the commemoration of the World Wetlands Day around the local wetland. The centre also planned for and hosted the National Tree Planting Day for Harare. Trees were planted to commemorate the day with youths from the neighbouring Epworth suburb. Epworth shares borders with the woodland and there are constant problems of cutting of trees. "The corporate sector also consults the centre in order to plan and implement activities that focus on specific activities e.g. pollution control and we use the booklet and the calendar for reference." (See Appendix 7 (WR 02).)

SCOPE is working with schools and the general community and in both cases the booklet is used as an organisational planning tool for coming up with (feeding into) their annual calendar of events as they observe most of the commemorations and also as a source of information e.g. for filler information when

compiling the organisation's in-house newsletter. SCOPE also uses the booklet with schools as a source of information for thematic issues e.g. biodiversity, ecological balance, eco-tourism, food security, health and HIV/AIDS and reminders for emphasis at the occasion of specific events e.g. Wetlands Day (*ibid.*).

Samuel Whande described how SCOPE is working with the booklet, "When working with the community we thrust on the aspect of permaculture as a tool to EE and in the process draw the attention and interest of visitors to our stand. This is then a chance to dialogue on the various aspects. We make use of the special days booklet and calendar in planning for visitors to our stands at Mukuwisi EE Centre and Zimbabwe International Book Fare (*ibid.*).

At E Africa the booklet and calendar are used extensively in supporting teaching environmental science and environmental education. The NGO supports schools by organising quiz shows and competitions such as Enviro-Action schools competitions, national schools and colleges tree growing and care programmes. They are also using the booklet for planning commemoration of environmental and other important days with the community and schools. The community work activities at E Africa use the booklet as a planning tool for holding field days and commemorations and also as a reference for making decisions on environmental management at local level as well as as a tool for coming up with projects that address problems. This corroborates data emerging from Interview responses in Appendix 4 (IR 01).

At an organisational level, E Africa uses the special days calendar in planning their activities. As a guide it is also a very useful reference material for staff orientation and development (see also comments from DNR (JG) above). "We normally translate the calendar into vernacular for use by communities so that they are able to utilize the calendar in their context" (*ibid.*).

Table 4.8 below shows three user categories, which emerged from the Harare workshop at CDU. Formal education had three sub-categories (school administration, teaching and learning and participation and conservation); Non-Formal education yielded two sub-categories (commemoration of special days, and participation and conservation); and Informal education had three sub-categories (management and planning, commemoration of special days and information and awareness).

Table 4.8: Zimbabwe workshop data; (in practice) (AM 01)

Categories of Use	Sub-Categories of Actual Use	How?
Formal Education		
<input type="checkbox"/> Schools and <input type="checkbox"/> Colleges	<input type="checkbox"/> School Administration	As a planning Tool for coordinating
	<input type="checkbox"/> Teaching and Learning	Reference by teachers and learners
	<input type="checkbox"/> Participation and Conservation	Competitions for schools
Non-Formal		
<input type="checkbox"/> Schools and <input type="checkbox"/> Colleges <input type="checkbox"/> EE Centres	<input type="checkbox"/> Commemoration of Special Days	National activities and campaigns
	<input type="checkbox"/> Participation and Conservation	EE centres on completions and action
Informal Education		
<input type="checkbox"/> Government Dpts <input type="checkbox"/> NGOs	<input type="checkbox"/> Management and planning	Reference for making decisions
	<input type="checkbox"/> Commemoration of Special Days	Planning for the farmer calendar
	<input type="checkbox"/> Information and Awareness	Staff orientation

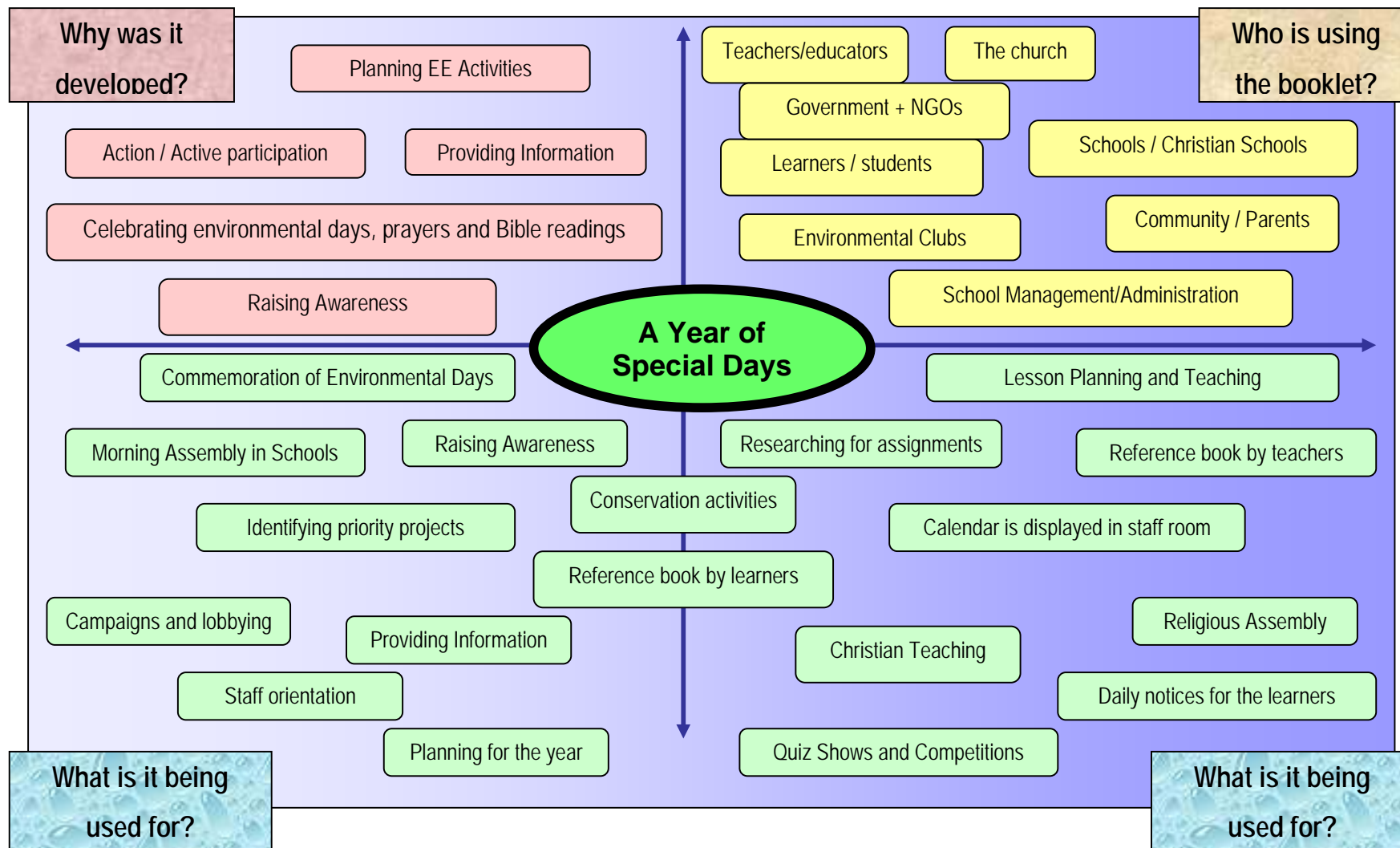
Mukuwisi Woodlands EE Centre is obviously a very important EE centre in Zimbabwe and many of environmental special days are organised and commemorated at the centre where EE learners and educators converge and participate in special days activities.

4.5.3. Use of the booklet in practice

To sum up, in Southern Africa the following uses are taking place in practice, which are not necessarily the intentions of the original developers:

- As learning material in schools and communities in South Africa
- It is being used by municipalities like the city of Durban
- It has been converted into a poster in Mauritius
- A farmer's diary has been developed from the booklet in Zimbabwe
- References to making environmental planning decisions by the corporate sector in Zimbabwe
- Reference for staff orientation in Zimbabwe
- The calendar has been adopted in Namibia and Botswana
- In Tanzania it includes the Koran verses

Fig: 4.3 below is a diagrammatic summary of the reasons why the booklet was developed, the recipient audience who are using the booklet and how it is being used in South Africa and Zimbabwe.



Figure; 4.3: An illustration of different categories of use

4.6. The faith issue

After analysing the data from the questionnaires and semi-structured interviews I went on to find out more from Share-Net on why the changes effected on the booklet were adopted. The following account highlights some of the reasons for the changes that took place.

The most obvious change is that prayers and bible readings have been removed from the booklet so it no longer has a faith context. Commenting on these changes Kim Ward had this to say, "At Share-Net we could see potential in the booklet for a tool for [use by] schools which would help them to plan for and celebrate environmental days. It was printed and added to our order form and schools have not stopped ordering it since". (See Appendix 10.)

Davies was still in contact with some of the teachers who have used the booklet for its religious context and she has spoken to a number of the teachers in the Transkei who were disappointed when the prayers were removed from the original booklet. Davies has had to provide them with copies of the prayers and readings that were used as an insert in the intervening years before they were dropped altogether. Davies has noticed from her work in rural schools that the faith context sometimes gives teachers and schools something familiar to hang a special day on. (See also 4.2.4. & {Appendix QR 01 (a)}.)

According to Ward, Share-Net maintains that they still have the prayers available but people from other faiths were not happy with a Christian-only orientation. Commenting on the same development, Jim Taylor had this to say, "Yes – this demonstrates the contextual use of the booklet – valid in some contexts in different ways to others" (Taylor Pers. Comm. February, 2005).

Presha Ramsurup and Andrew Mathabathe had an interesting experience in Gauteng while working for DELTA Environmental Centre during a time when they were workshopping the booklet. The following story from Ramsurup might have prompted the changes that followed.

In the first quarter of 1999, we held a cluster meeting with the (Name supplied) Cluster south of Johannesburg. In all, 18 schools attended the meeting at [Name Supplied] Muslim School. The aim of the meeting was to introduce schools to the schools environmental education policy pack, which also included a folder with the booklet *A Year of Special Days*. During the workshop we went through the different folders in the policy pack. We also introduced the

booklet *A Year of Special Days* to the teachers and we explained to them how they could make use of the booklet and the calendar. A group of teachers raised the question, "Why did the book contain only Christian prayers". We were not able to adequately answer this question to their satisfaction but we tried, unsuccessfully, to explain to them that it was not the prayers that mattered but the environmental special days in the booklet. A large part of the teachers were Muslim and the issue soon degenerated into a big discussion around the Christian verses and the exclusion of other religious beliefs. We also highlighted to the group that the book was conceived from an assignment, which was a project put together in fulfilment of Goldfield course in 1996.

At this meeting were Ministry of Education district officials who became very worried when the discussion continued to heat up. They requested us to remove the booklet from the pack, as they were concerned that it would be misrepresented as if the Department was supporting the agenda of one religion. That is what we did; we removed the booklet from the policy pack and continued with the workshop. We never used the book again in that district. We did the same in Springs where we suspected it would not be well received because the religion of a large number of teachers was not Christian. (See also 4.2.1.)

As the book got more into the national space as it was used with the teachers in schools, in the national curriculum, there was a need to shift from a single religion to becoming multi faith or drop religious ties altogether (Shift One). Share-Net opted for the later. When the Ministry saw the value of the resource and decided to come up with their own version of the booklet for the national curriculum, which they adopted, from this one. This comes from the change in the use of the booklet, this time without prayers, now that it is in the schools. (See Appendix 4, IR 03) (Ramsurup Pers. Comm. July 08, 2005).

Commenting on this incident Ward said they had to take the prayers out, but still had them available as a separate handout on request. Share-Net also tried to find people from other faiths to contribute to a multi-faith version of the booklet but contributions were not forthcoming and it seemed best to leave the prayers out altogether (Ward Pers. Comm. August 09, 2005).

As the booklet found its way into the formal curriculum it was exposed to pressure from other faiths because as a national booklet it had to be seen to be non-partisan. On the future of the original intentions for the booklet Davies had this to say, "I have spoken to a number of teachers (in the Transkei) who were disappointed when the prayers were removed from the original booklet" (Davies Pers. Comm. April 08, 2005). It might also help bring about improved awareness and with it, greater tolerance and fewer misconceptions about people of other faiths. (See section 4.3.1.)

According to data generated from interviewing Ramsurup and Mathabathe, two shifts can be identified in the changes that followed. As the book got more into the national space as it was used by teachers in

schools in the national curriculum, there was a need to shift from a single religion to becoming multi faith or drop religious ties altogether (Shift One). Share-Net must have opted for the later. When the Ministry saw the value of the resource and decided to come up with their version of the booklet for the national curriculum, which they adopted, a second shift was inevitable. (Shift Two). This resulted from the change in the use of the booklet, this time without prayers, now that it is in the schools. (See Appendix 4 (IR 03).)

4.7. Summary of findings

The following activities in practice were identified as being consistent with the intended use of the original booklet developed by Davies and Share-Net.

- ❑ The booklet is still a useful tool for school administration that uses it in planning a school calendar and for the commemoration of special days.
- ❑ The booklet is still in use for planning school and community outreach activities to involve people in action and participation on special days.
- ❑ Some schools still use the booklet's biblical references and are still requesting the prayers as supplementary inserts.

There were however some variations in as far as the intended use of the booklet and the actual use in practice. In South Africa, Davies never mentioned schools or formal education as the target audience in her original booklet. It was never intended for use in formal education but instead she wanted to get the Anglican Church community involved in environmental education, although this would also include working with schools. At Share-Net, they wanted to include all learners in formal education and to help schools in environmental planning. Against this background, the following is what was happening in actual practice, which had not been mentioned by the developers:

- ❑ Formal education has emerged as the major user, it is clear that schools have found it to be extremely useful for planning and action.
- ❑ The religious verses were removed and the booklet that is being printed now has no trace of the faith-based link at all.
- ❑ Schools are using the booklet for research and lesson planning to enhance classroom teaching and learning.

Some original intentions did not continue:

- ❑ The book did not continue to provide religious education as intended. This was only done initially and then the user partners shifted from the church to schools.
- ❑ The community has been sidelined as the booklet does not make reference to them at all.
- ❑ The multi faith participation never happened, as other faiths were not forthcoming with their contributions.

In Zimbabwe the booklet has been used for a wider range of activities which cut across formal, non-formal and informal education sectors in the schools and all interested parties in the public and private sector. These sectors had been well represented in the special days task force, which adopted the booklet.

4.8. Conclusion

This chapter presented the data generated through questionnaires, semi-structured interviews and workshops, which went through a series of data analysis by summarising the responses and then processing these into analytical memos leading to research findings. Data from informal interviews with people coming to the SADC centre and a cross-examination of Share-Net developers were used to compliment the outcomes of the data and to shape it into categories.

By drawing on the analytic memos the three broad categories emerging from the data are: Formal Education (mainly school administration and planning, and teaching and learning), Non-Formal Education (e.g. religious education, commemoration of special days, participation and action taking) and Informal Education (some community activities). (See section 4.2.2.) The reasons why the booklet was developed are weighed against the actual use of the booklet in the schools and other EE processes (Fig: 4.3).

The chapter that follows will draw on these findings to provide the starting point for the discussion on the research findings which will clarify the relationship between the development and use of the teaching and learning support material, *A Year of Special Days*. The discussion will be confined to the research question while at the same time taking cognisance of the recent debates in the development of teaching and learning support materials.

Chapter 5 – Discussion of Research Findings

5.1 Introduction

The relationship between the development and use of the teaching and learning support material *A Year of Special Days* was investigated and the findings were compiled and examined in Chapter Four. The interpretation of the data revealed three main categories into which responses for the development and use of the booklet conformed. These are Formal Education, Non-Formal Education and Informal education (see Section 4.2.2. and also Tables 4.1 to 4.7). In this chapter I will discuss the findings developed in Chapter Four. I will draw on these findings to discuss the following areas; the ideology of resource materials development, the relationship between development and use of materials in practice, some special features of the resource materials development, use of the teaching and learning support material in context, and finally, a discussion of these findings.

This chapter will provide a framework for the relationship between the development and the use of resource materials in southern Africa so as to inform the process of tracking, development and use. I now offer a critical analysis of the research findings coming out of the data analysed in Chapter Four and explore how this will answer my research question exploring ... **the relationship between the development and the use of the Teaching and Learning Support Material, *A Year of Special Days*.**

5.2 Ideology of materials development

5.2.1. Theoretical background

"An ideology can be thought of as a comprehensive vision, as a way of looking at things, as in common sense, or a set of ideas proposed by the dominant class of a society to all members of this society" (Althusser, 1988). "Ideologies are formed through experience, education and tradition. Many people hold the ideals that their parents did; however our society is making this more of a rarity. Everyone holds some sort of ideology, therefore ideology is inescapable" (Wright, 2005). In developing the booklet Davies had a

very clear idea of what she wanted to do, which became the basis of the ideology around which the booklet *A Year of Special Days* was produced.

The issue that the original author identified as an area of concern was that the faith communities were slow to recognise and respond to the call in their doctrines, writings and teachings to be involved in what she calls, 'earth keeping' (see Appendix 1 {QR 01 (a)}). The UN international and South African national days offered an opportunity to combine justice, peace and environment issues in an informative booklet, which, in this case, was designed for Christian communities. (It was compiled two years after the first democratic elections in South Africa.) The purpose of this little book was an attempt to give a brief history and explain the social, political, economic and ecological concerns that are highlighted in the South African calendar year.

The booklet was developed for the Christian faith context as the prayers and Bible readings were essentially Judeo-Christian. Davies had, "... always felt strongly that the world is not partisan" (see Appendix 1 {QR 01 (a)}). She was determined to provide a resource to members of faith communities whom she believed needed simple, non-specialist and easily accessible low cost information about environmental issues. This she ultimately managed to do but not in the context in which she originally intended. The process that the initial edition went through was more of a 'top down' approach as shown in the section that follows.

5.2.2. The RDDA method of materials development

When Davies developed the first booklet it was in fulfilment of the Goldfields environmental education final assignment task. Her investigations showed that there was a need for environmental education material for the Anglican Church Community and Schools working with community (see Section 4.3.1). Although she held consultation with her colleagues with regards to the content of the resource, some elements of RDDA are still evident as this seemed to be the most appropriate, as shown below:

- R – Research; was conducted with colleagues in the Anglican Church community
- D – Development; was the completion of the Goldfields final assignment
- D – Dissemination; was the distribution of the first copy to all Anglican parishes
- A – Adoption; there were problems with adoption as the booklet lacked appropriate support from developers

Figure 5.1 below is my interpretation of how the booklet was developed. In my view consultation did take place and implementation was mainly 'top down'

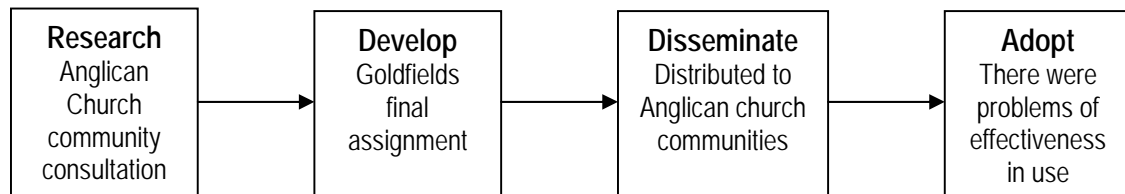


Figure 5.1: My interpretation of how Davies developed the booklet.

The RDDA (see Section 2.3.2) method of resource materials development is an ideological position, which has got its own merits. National Curriculum Development Centres in the SADC Region are still RDDA oriented to a large extent as they still develop materials at the centres, which are then distributed to the schools for use. The expert is still there in the development of the first edition of this booklet as it was directed mainly from Share-Net who were acting on the feedback from users in the schools. In developing the booklet, attempts were made at Share-Net to involve faiths other than Christian without success as they were not forthcoming (see Section 2.9.3) but feedback from teachers and other users has been very helpful in the development of each successive edition from 2001 (See Appendix 1 {QR 01 (b)}). This informal feedback explains the effective use of the booklet adapted for Zimbabwe, which took advantage of the reflections and feedback that the South African versions had gone through.

Although RDDA is accused of being social engineering, it is cost effective in terms of finances and time (Lupele, 2002: 143). The assumption is that RDDA methods are not the most appropriate in the world today where participation is the in thing especially where donor funds are concerned. Many of the most influential writings in the world such as Marx's *Communist Manifesto* fall into the RDDA category and they still continue to influence people. SADC REEP does still have elements of RDDA orientation but an obvious effort has been made to promote participatory materials development where there is a blend involving consultation and the expert wherever possible. (See section 2.3.3.)

5.2.3. The rationale for participatory materials development

Over the past 10 to 15 years there has been a shift from RDDA to participatory resource materials development (see Section 2.4.2), e.g. *Developing Curriculum Frameworks* and *Development, Adaptation and use of learning support materials*. The application of *praxis* in materials development was put to the test when the theory of development and the practice of implementation of the material in use were consulted.

Technically the expert is still there and in this case it is Share-Net and the various users of the resource in the form of teachers. The range of experts is wider in terms of quantity and quality of users. In my opinion there will still be a need for a balance between technical expert input and pedagogical participants input. Sometimes this came as a result of tension (see shift one below and section 4.6). The government responded by developing a national version, which Share-Net produced (see Section 4.2.1). More contributions continued to come from schools and they became the main users for which Share-Net now develops the booklet. Reflections between the development and use of the booklet resulted in three shifts, which are identified below.

- **Shift One** occurred when the purpose of the booklet changed from an informal and awareness booklet to a formal environmental learning support material for use through investigating issues around environmental special days. This process continued all the time as it was addressing a real need for an environmental planning tool in schools.
- **Shift Two** was to do with the faith issue; the prayers were removed and offered as inserts on request. There were two distinct responses to this shift: firstly, the change was well received by other faiths and this widened the booklet's sphere of influence in South Africa and secondly, teachers in Christian schools were not very pleased as they had got used to reference verses in the booklet.
- **Shift Three** was to do with the different contexts in which the booklet was used. Adaptations took context into consideration in order to suit local situations especially as its use was becoming less limited to national levels in South Africa and more to a wider regional context in some SADC countries.

Participatory resource materials development is also an ideological position, which must find a place in materials development and not just for the sake of it. In the development of this particular resource material,

it was achieved through reflections on the booklet in actual use. The practitioner, the user of the booklet, was now talking to the developer, at Share-Net. There was a need to be responsive to context or learners/users, i.e. time context and place context (Russo & Lotz-Sisitka, 2003). Materials development became relevant to the users/learners when the booklet became more responsive to this context. The main reason for this reflexive way of materials development was that the developers were responding to social and political change, as the South African curriculum was also undergoing transformation at that time.

However care should be taken in order to recognise that the participatory activities may simply become a legitimating exercise or the right way of doing things. In such cases, the participation is not genuine, and is perhaps more appropriately termed pseudo-participation (O'Donoghue, 1990 cited in Taylor, 1997). In redeveloping the booklet, participation from a wide range of users has not been formal or arranged but rather *ad hoc* and this has proved to be extremely effective, as the use of the book has continued to increase (see Tables 4.5 (a) and (b)).

Participation in developing resource materials involves a process of action that supports reflection on theory. An analysis of the way in which the booklet was adapted and adopted shows that there was reflection on past experience in South Africa as they were striving to improve on the resource material and to respond to environmental and educational issues that developers and users were dealing with. Grundy (1987) argues that whatever we do is informed by some kind of thinking emanating from our past experiences (see Section 5.5.3). What has happened in the past is both positive and negative and it is our duty as educationists to make use of the positive developments and enhance our actions in future endeavours. It is equally important to capitalise on the negative experience and turn it into opportunities for enhancing learning. In this case the redevelopment of the booklet in South Africa and Zimbabwe was taking cognisance of the positive and negative factors (see Section 4.3.2). Reflections were observed in practice and also in the process of materials development (see Section 2.6.2)

There is a link between engaging with the way in which educational practice will address environmental issues and the way in which the resource materials were redeveloped, mainly as a planning tool. The booklet was going to be used mainly as a planning tool for schools (mainly the South African Eco-School Programme) and this had been identified from the way the first edition of the booklet was being used (see Table 4.2.3 - South Africa and Tables 4.3 & 4.8 -Zimbabwe.)

5.3 The relationship between development and use of materials

5.3.1. Theory and practice

Practice is often depicted as the act of doing something. It is usually contrasted to 'theory' - abstract ideas about some thing or phenomenon. This 'theory' tends to be put on a pedestal by the developers. From theory can be derived general principles or rules. These in turn can be applied to the problems of practice. According to Carr and Kemmis (1986), theory is 'real' knowledge while practice is the application of that knowledge to solve problems. In many ways, this is a legacy of Aristotle and his three-fold classification of disciplines as theoretical, productive or practical. The basis of the distinction lies in the *telos*, or purpose, each serves (Carr & Kemmis 1986: 32).

In brief: "The purpose of a theoretical discipline is the pursuit of truth through contemplation; its *telos* is the attainment of knowledge for its own sake. The purpose of the productive sciences is to make something; their *telos* is the production of some artefact. The practical disciplines are those sciences, which deal with ethical and political life; their *telos* is practical wisdom and knowledge" (Carr & Kemmis, 1986:). This way of separating areas of knowledge can be seen, for example, in the way that we might view 'pure maths' (theoretical), tool-making (productive), and social work training (practical).

5.3.2. A *praxis* vantage point

The concept of praxis in education evolved from the Greek meaning of praxis, which is used to mean doing, acting and practice. Praxis means "action that is entailed by theory or a function that results from a particular structure" (Simpson & Weimer, 1989 cited in Motsa 2003: 13). Magnus defines praxis as a practice or exercise of a technical subject or art, as distinct from the theory of it, and as the habitual action or accepted practice and custom (Motsa, 2003).

The full quality of praxis is not simply action based on reflection but also action, which embody certain qualities, which include a commitment to human well being, the search for truth, and respect for others. "It is the action of people who are free, who are able to act for themselves. Moreover, praxis is always risky. It requires that a person makes a wise and prudent practical judgement about how to act in this situation" (Carr and Kemmis, 1986: 190).

5.3.3. Action and reflection

Grundy, (1987) argues that although theory and practice have a relationship, it is not linear but reflexive. Freire (1972) believes that praxis consists of action and reflection and therefore requires theory to reflect on action. He argues that the act of knowing involves a dialectical movement which goes from action to reflection and from reflection upon action to a new action. Anything that we do is supported by some kind of thinking emanating from our past experiences.

Combleth (2000) argues that there is an overlap or an interweaving between theory and practice. She goes on to assert that theory is seen to emerge from practice and to act back on it. The use of the booklet after the first edition improved with reflections on practice. Practice breeds theory and theory informs practice – the two complement each other. The booklet has been reflected on many times in South Africa. The SADC adaptations were based on the South African practice. The Zimbabwean version has also been put into practice, which has worked well, and this has been followed up with the 2006 version being redeveloped. (See Appendix 7 WR 02.) This practical use in the South Africa context informed subsequent development and support of the booklet in Zimbabwe, for example.

Motsa (2003) says we see the world through our theoretical perspective or lenses and that influences the way we act within or on it and world influences our action in turn. It is through action and reflection on social structures that education would serve the function of invention and creation rather than transmitting or implementing the values of the dominant classes in society. The innovations and improvements that have occurred are an ongoing action and reflection on the use of the resource material as a booklet and a calendar in South Africa and Zimbabwe.

5.3.4. Praxis and context

One sees the need to do something in response to a problematic prevailing situation or context. This Grundy calls 'social praxis'. Social praxis takes place in the real but not hypothetical world. Context refers to the interrelated cultural and social conditions under which interactions occur. Beck (1992), asserts that people are able to become reflexive agents and through reflection become freer to restructure the rules, and redistribute their time at the work place (Motsa, 2003).

Davies observed what she presumed to be a real need and decided to address the issue with a resource material to support environmental learning in the faith community. There were a few other issues that needed to be considered first, before the booklet was put to use. Issues of who was going to use it, how was it going to be supported, how it was going to be used and so on. There was no standing educational structure within the Anglican Church to make this happen as effectively as desired. The booklet was very well conceived and the intended purpose found relevance in a different context, in the schools where requests for the booklet were increasing (see Section 4.3.2) and also the different ways in which it was being used. (See Tables 4.5.1 and 4.5.2.) Share-Net seized the opportunity to put into practice the theoretical framework product in the form of the booklet (see Appendix 01 (QR (a))) and 4.3.1: 59). Opportunities existed in the use of the booklet for assembly and as a planning tool, which became an instant hit. This was a bonus to the initial intention, which did not mention schools as recipients of the booklet.

Most people in the EE circles in South Africa had no objection to the way the book was presented with the Christian verses, probably because they just got used to seeing them as part of the booklet. This was the case with EE centres run by NGOs like Umgeni Valley project. As the booklet got more into the national space and as the teachers in the national curriculum used it more, there was a need to shift from a single religion to becoming multi-faith or drop religious ties altogether (see Section 5.2.3). Share-Net opted for the latter. The Ministry of Education saw the value of the resource and redeveloped the booklet for the national curriculum, which was adopted in 2000.

5.4 Special features of the booklet as an example of resource material development

5.4.1. Characteristic features of resource material development

The development of each resource material has got its own needs and the following are characteristic features of the development and use of *A Year of Special Days*:

- ⇒ Dialogue between prospective resource developers and users, particularly at the onset of the resource development process. The phases of consultation can be observed: firstly Davies had close consultation with the congregation and the people around her in her parish (see Section 4.3.1) and secondly the ongoing consultation between Share-Net and schools.

- ⇒ Involving a wider participation in the development process is important although care must be taken not to become trapped in a top down or bottom up dialectic; this came in the form of feedback from the people using the booklet which was common in the later editions since 2000.
- ⇒ An assessment of existing materials and the appropriate adaptation of these for possible use in future materials can save time and resources; adaptations in the SADC Region from 2000 onwards have relied on the South African version that had been in existence since 1997, as had the calendar. South African examples are the adoption of the calendar and the adaptation of the booklet for the Cape, Durban municipality, and the Ministry of Education.
- ⇒ The piloting and re-editing of materials prior to the production; editions that followed the 1996 booklet went through various stages of reflection which took many different forms. In the first edition consultation with users was not thorough and did not exhaust how it was going to be used. Later editions are taking advantage of ongoing consultation with schools and organisations most of which is informal.
- ⇒ Engaging an expert to do final editing ensures that scientific errors are kept to a minimum; this has always been available at Share-Net and the SADC REEC where the depth of experience goes far back.
- ⇒ Making the materials available in different forms even e-mail, contributes to materials adaptability for wider use; the booklet is readily available as a hard copy and electronically. The prayers are now optional and it is now available on e-mail circulation. (See Appendix 10.)

5.4.2. Responding to a range of situations

An important strength of the booklet is its ability to respond to a range of situations. The booklet has been developed in a manner that encourages flexibility and an open-ended approach to its use. This has meant that the materials are often used in ways which go beyond the initial intention. Examples of this is the reference to environmental days by announcers on local and national radio in South Africa and by WWF to people in South Africa on an e-mail circulation list before the occasion of each special day (see Appendix 10). It is being used as a poster in Mauritius⁴ and the calendar can be traced to at least eight SADC

⁴ An interesting development was discovered when we were cross checking the use of the poster and the supporting book. In one of the schools using the poster, the students were using the poster as a game. They tested each other on the Do's and the Don'ts and each correct response was awarded points and the player who reached 100 points first wins the game. This part of

countries where it is used in various forms. In Zimbabwe it has been used in developing the farmers' diary and for making environmental management decisions. (See Appendix 7 (WR 02).)

The SADC REEP resource materials can be used to complement each other or as a stand-alone resource material. This means it is a simple matter to compile a particular pack of resources for a particular need. Special days packs have been assembled for national days on request. (Share-Net is responding to demand from different users.) Examples are:

- ⇒ The Arbor Day pack was requested for the schools environmental newsletter and it was developed and assembled for only R 8.00. (US \$ 1.30) (Taylor, 1997). In the pack was a range of other materials relevant to Arbor Day.
- ⇒ The Eco-Schools Toolkit pack contains a portfolio of evidence, *A Year of Special Days* booklet, and a guide to the eco-schools programme, a manual on OBE, the National Curriculum and the seven focus areas and then an environmental audit. Next year it will include a book on lesson planning developed by NEEP-GET.
- ⇒ The Biodiversity Day pack was requested for biodiversity planning by the department of Environment and Tourism
- ⇒ The Earth Day Pack is developed in April each year as requested by the Earth Day International Network (EDN) for supporting international activities on Earth Day.

For each of these, the booklet is the core reference material and is used as a starting point for activities to be planned and coordinated.

As the developer, Share-Net has been responding to requests from schools, government and the NGOs working in EE. At an ecoschools workshop held at the SADC Centre in June 2005, it was decided that the eco-schools coordinators should be provided with a pack to support them with their chosen focus areas. Sometimes packs are dictated by the availability of resources that can be linked to a special day. There are 48 special days in the 2005 booklet and Share-Net does not always have enough resources to put a pack together for each and every day. (See Mathabathe's comment⁵ in Chapter Four (see also Section 4.4.2.)

how the poster could be used was not planned at all and it is the children who came up with their own method of learning" (Sooknar, Pers. Comm., May 2005).

⁵ Mathabathe said teachers in the Gauteng areas were concerned about the shallowness of the booklet, which did not give them much to lean on. They would appreciate it if there was more detail in the book itself or from supporting materials. (Mathabathe, Pers. Comm., July 2005)

5.4.3. Adoption and adaptation of materials

The *Cape Action for People and the Environment* (2005) booklet was adopted as is with the exception of the cover, which was redesigned to suit their particular context. The booklet is developed copyright free and so teachers, community workers and curriculum developers have been able to use it as it is or to adapt it for wider use. Professionals on an attachment programme who developed the booklet for their national contexts in Zambia, Tanzania and Angola, adapted the booklet at a minimum expense.

Feedback from users has revealed that materials are used in a wide variety of ways in supporting further materials development. The adaptation of materials from a disc has proved particularly useful in some circumstances. The booklet is available electronically and adaptation of materials from disc has been quite common at the SADC REEC during attachment projects. The adaptability of the booklet has been very helpful in that it has been flexibly contextualised by different users in different countries in the SADC Region.

5.4.4. Copyright issues

The decision to make SADC REEP resource materials available copyright free had the potential to raise tension as considerable income can be realised from the commercial sale of resource materials. The booklet *A Year of Special Days* has got an insert, which reads, "Share-Net resources are marketed on a cost recovery basis. Any Share-Net resource may be reproduced COPYRIGHT-FREE for non-profit educational purposes" (Share-Net, 2005). Materials development at the SADC REEC is of a collaborative nature as there is the need to share the materials and projects as widely as possible. This has increased the use and adaptation of the booklet as it has had a limited number of commercial competitors in EE resource materials due to affordability, accessibility, and flexibility in use.

5.4.5. Resource materials compliment networking

Sharing materials in an adaptable format also supports redevelopment of materials to local conditions and circumstances. The booklet is a significant example of cooperative networking in resource materials development in the SADC Region. Opportunities for collaboration between educators and other users of the

materials were provided through the development process. Local collaborative resource development initiatives led to a closing of the gap between producers and users of resources. (Reflexive way in, which the South African booklet has developed since 1996.) Reflections on the booklet, *A Year of Special Days* were less formal but very effective and every user school and organisation has the opportunity to offer suggestions.

Through the development and use of resource materials a tangible focus for discussion and action is always possible. This focus is often lacking in workshops, forums, and discussions as people try to address pressing environmental and development issues. Developers in Zambia, Zimbabwe and Tanzania have a close link with Share-Net and continue to consult and grow in the field of EE. The special days task team in Zimbabwe has continued to network and they are still continuing to collaborate in developing the 2006 edition, which is going to coincide with the EEASA conference to be held in the country in August 2006. (See Appendix 7, (WR 02).)

An important feature of networking through the SADC Attachment Programme (see Section 2.2.2.) has been the personal relationships that people develop and maintain through other meeting opportunities like the annual EEASA workshops which provide an opportunity for people to renew acquaintances and share latest developments in resource materials development. At this conference the 'market' place provides people with the opportunity to display their resources, which includes materials still in their developmental stages, to elicit wider comment and contributions.

Through the development of materials, relationships were developed between people and organisations, which have in turn led to greater future opportunities. An example was the Zimbabwean version of the booklet, which involved people from the government, civil society and NGOs. People move from one organisation to another but the organisations remain. The Harare workshop, which was organised to improve on the special days booklet, was put together by four organisations which are part of the original taskforce on special days. The development of the booklet in Zimbabwe led to the generation and redevelopment of related materials like the calendar, the farmers' diary and special days packs, and these processes were made easier by early cooperation during the development. In other cases people who have moved from organisations have continued to be active in their new settings, widening the sphere of influence and consultation.

5.4.6. Some concerns

The notion that resource materials in themselves can cause appropriate social change is an assumption which I find to be incomplete. Such an assumption fails to take the broader view of learning and change into account where the social context in which the resource is used takes on a considerable significance (see Section 2.5.1). In themselves resources cannot teach and they cannot change people's behaviour and attitudes. (See 5.4.). In a supportive social context, a community worker or a teacher is able to use resources with participants to explore environmental learning and the resource material may support better learning. *A Year of Special Days* is a very user-friendly booklet but only when it has been supported and monitored by the developers so that the teachers and other users deliberate on the different ways in which the booklet can best be put to use. The first booklet was not able to make inroads into the faith community education sector because the ground had not firstly been properly laid out: there was no support structure to pursue the agenda (see Section 5.3.4).

Another assumption is that knowing about an environmental issue will lead people to taking appropriate remedial action. Learners do not always apply their newly found knowledge in real life situations. Although the booklet was distributed to schools as part of an environmental policy support pack, some teachers still thought it was shallow (see Section 4.4.2.). On the other hand there are cases of exception like the Howick High School project on Wetlands Day (see Section 4.3.4). However, Freire suggested that consciousness alone is not sufficient; it must co-exist with meaningful praxis. He defines praxis as the dialectical union of reflection and action; and goes on to say praxis is at the heart of human nature since human "activity consists of action and reflection: it is praxis; it is transformation of the world. And as praxis it requires theory to illuminate it" (Freire 1972: 96).

Finally, materials developed for teaching and learning can never be complete at any one time as it is a learning process for the developers and the users. The materials that have continued to exist as drafts have been consulted and improved on with feedback from both learners and users because the two compliment each other. A short term process occurred when Davies completed compiling her assignment, which culminated in the booklet *A Year of Special Days*. This was not a final product, but in actual fact became the first draft of the booklet that we have today. Long term learning processes began and continued taking place as other adaptations steered the booklet through processes for developers, which continued to

change with each redevelopment. The section that follows will discuss findings with reference to the users of the booklet.

5.5 The actual use of materials in context

5.5.1. The link between development and use

The teacher is the link between the text and learners. Each teacher is capable of converting the black and white text of the books to more creative and interesting material through his own creative expression and use of story. The same applies to adult education where the facilitator or educator becomes the link between the teaching and learning support material and the learners. The focus is on developing the inherent strength of the individual in the role of the teacher, to look at the teacher as a performer. However, not all educators are able to perform this role effectively.

The assumption is that the role of teaching and learning support materials is to supplement the teacher's strengths and that this strength already exists and teachers are willing to exploit their strengths. In many cases teachers are willing to use new teaching and learning support materials but they do not always know how, hence the need for support from developers and other interested parties. "Research showed that even if teachers have access to books for themselves and their learners, they are not necessarily able to use them" (Rosenberg, 2005:52). This is where organisations like DELTA Environmental Centre (See Appendix 4 IR 03) and Umgeni Valley project (South Africa) and Environment Africa (see Appendix 4 IR 01) and *Action Magazine* (Zimbabwe) came in to support teachers in practical contexts. Development of teaching and learning support material is an intense process, which starts with questioning the very need for education and if this step is worked out properly and in detail then the follow up becomes simpler and automatic.

In all cases where the booklet has been used successfully, this has paid off because of the support and follow up that the educator is receiving from the developers and other interested partners. In the case of the schools in the Midlands of KwaZulu-Natal, WESSA runs a vibrant eco-schools programme sponsored by WWF to support schools (mainly disadvantaged farm schools) in a range of environmental activities (see

Appendix 4 (IR 02 (a)). The same support was not evident in the booklet, which was developed for the Anglican faith community.

5.5.2. Findings and context discussion

The original resource material did not explore effectively how it was going to be used and it was not clear who was going to use it (the priest, the parishioners or the community worker). The resource was also not piloted effectively to assess its intended usability. There is need to support the resource material in use, Davies's resource had no initial support structure for its intended audience. She agrees that there is a need to develop support materials for use with the existing version designed for the faith community. This is one way in which this support could be achieved.

Instead of being used by the church the booklet found itself in the hands of schools that were able to exploit a potentially effective situation. The subsequent booklet version reflected on what the schools were saying, the real practice on the ground as opposed to an ideal situation. The special days packs are a good example of responding to need. Share-Net took advantage of the support structure that was in place for environmental learning, the EE centres in South Africa like DELTA and Umgeni Valley project and now the eco-schools programme (see 5.3.2).

5.6 Conclusion

This chapter discussed the findings of the study in relation to the relationship between the development and use of the teaching and learning support material *A Year of Special Days*. The discussion was based on the ideology of materials development, features of resource materials development, use of teaching and learning support materials in context, the relationship between development and use of materials in context and a discussion on the findings. The features discussed in this chapter emerged from data generation as explained in Chapter Three and was analysed and synthesised in Chapter Four, Three data categories were finally consolidated into three themes, i.e. Formal Education, Non-Formal Education and Informal Education (see Section 4.2.2). These themes showed instances of why the booklet was developed and how it is being used in southern Africa.

In Chapter Six, I will give a summary of the research study. The summary will be my summing up of the data that emerged from the research and I will go on to offer emerging recommendations for the practice of development and use of teaching and learning support materials in the SADC REEP and southern Africa. I will also explore recommendations for futures research opportunities as emerging from the data analysed in Chapter Four. The next chapter will also talk about the potential value of the study as I explore the lessons learnt as mentioned earlier on in Chapter One (See 1.2).

Chapter 6 – Summary and Recommendations

6.1. Introduction

In this chapter I shall proceed to present a summary of the main findings of the study, i.e. the relationship between the development and use of the booklet *A Year of Special Days* in southern African. As shown in Chapter Five, the original intention for developing the booklet and what it is being used for now are miles apart although they both have overlapping aims like non-formal education (see Table 4.2.1 and 4.2.2). I will give a summary of the study; the potential value of the study for materials development in the SADC Region; recommendations for the practice of resource materials development at the SADC REEC; and also suggestions for future research possibilities and recommendations for SADC REEP as a whole in order to explore related areas of concern. Finally, I shall look at the limitations of this study with reference to the methods of data generation and the study as a whole.

The booklet *A Year of Special Days* is considered as a single case study of materials development at the SADC Centre in order to shed some light on resource materials development by an agency ideologically committed to collaboration and participatory work. As explained earlier in Chapters One and Three, the case study approach was chosen with the view to explore the relationships that exist between the development and use of teaching and learning support materials in southern Africa so as to inform the development of more effective teaching and learning support materials in the SADC REEP.

6.2. Summary of study

6.2.1. Overview

This study focused on the reasons why the teaching and learning support material *A Year of Special Days* was developed in South Africa and Zimbabwe and how it is being used in southern Africa. I hope to support the development of teaching and learning materials as part of my work at the SADC REEP where I work with environmental educators from 14 SADC countries on the development of resource materials for use in their work contexts. It is my hope that I have been able to unpack the relationship between the development

and use of such teaching and learning support materials in order to improve on the work that the SADC Programme is currently supporting.

This research has been located within current debates around the challenges associated with resource materials with reference to the SADC Region and these have been reviewed in Chapter Two. An important development noted in Chapter Two was the shift from the traditional RDDA approach (see sections 2.4.2 & 5.2.3) to more participatory approaches, which include consultation with stakeholders in the development of resource materials. The study recognised the role played by resource materials in teaching and learning and the development of the resource material *A Year of Special Days* at the SADC REEC was articulated and the inherent challenges outlined.

The data generation methods of questionnaires, semi-structured interviews and workshops were used to track where and how the booklet was being used and these were explained in Chapter Three. Figure 3.1 summarises the techniques of data generation and preliminary analysis that I used and the ways in which I used the three techniques. This chapter also explained how issues of validity and trustworthiness were considered and the ways in which ethical considerations were dealt with. The information generated in Chapter Three was used to develop a tracking map showing where the booklet is being used in southern Africa (Figure 4.1) and also a flow diagram showing the users and how it is being used in South Africa, Zimbabwe and southern Africa (Figures 4.2 and 4.3). The data also contributed to the three thematic categories of the development and use of the teaching and learning support material in the formal, non-formal and informal education sectors. (See Section 4.2.2 and Tables 4.2 to 4.8.)

Chapter Five shows how the booklet was developed with the non-formal education for the Anglican Church community in mind but ended up being used in the formal education sector in schools to a large extent and the informal sector in the community to a limited extent. Chapter Five discusses the flexibility of the resource which makes it possible to be used as a stand alone, with other resource materials in the form of a special days pack (see Section 5.4.2), and to be adopted, adapted and redeveloped to fit into many different contexts in South Africa and the southern African region as a whole. Also discussed is how the booklet was made available at the SADC REEC for resource materials developers from all over southern Africa to access it copy right free and this has increased access and the ways in which it is being used.

6.2.2. The relationship between the development and use of materials

There is a relationship between the development and use of the material *A Year of special Days*:

- Development of materials is informed by perceived use of the materials; where the developers think the resource is going to be used. (See Section 5.4.1.)
- Redevelopment is informed by demand or use in practice; what is happening in the field of use. (Success breeds success and steps up production to meet demand – it also steps up the culture of innovation as demanded by reflections from users.) As the multiplier effect sets in the relationship between development and use continues to sustain growth and value and effectiveness in use. In the case of a book of Days the following are working well; as a planning tool, as a research starting point for teachers and learners providing just enough information to begin, and as the useful links, the user support.
- Adaptation of materials is informed by previous knowledge of use, where the resource has been adapted / and adopted for areas/circumstances where it has not been used before and there are similar circumstances; as when the book was developed for other countries in southern Africa.
- Materials developed for redevelopment like those at SADC REEC offer opportunities for being used for the development of related materials. The booklet at the SADC REEC was used for adaptation in other countries. All the SADC REEC copies of the booklet are readily available in the country cupboards and they are also copyright free.
- The process of material development offers a chance for professionals to network and grow in the field of EE.
- Materials development in the SADC Region developed through the Attachment fellowship programme which facilitates networking across the region, and which continues long after the fellowship programme and remains an open opportunity to be exploited.

6.2.3. Lessons learnt

One of the strengths at the SADC REEP is the development of materials that can be adapted to a variety of contexts. Through the opportunity of working on materials some individuals and projects have adapted and developed materials. This opportunity can help people grow in understanding and confidence through the experience of developing the materials. In working with materials they often have to clarify their ideas

through debate with others rather than simply being recipients of other people's materials. The need to develop the capacity to be able to respond to needs and opportunities enables developers to provide materials that could be used to respond to written and audio requests on particular environmental issues from schools and the public.

6.3. Recommendations to enhance materials development

The recommendations that follow provide a general proposition for the development and use of teaching and learning support materials as analysed in Chapter Four and discussed in Chapter Five. I realise the need for research to continue in order to understand how this relationship works and how it can be enhanced through the influence that the SADC REEP has in southern African as it responds to regional environmental issues and risks through the development of such resource materials. I also acknowledge the need for ongoing research in order to understand how these generalised propositions can support resource materials development. This research study was able to develop generalised insights and recommendations for resource materials development and use of similar materials at the SADC REEP resource materials development programmes, especially the Attachment programme.

6.3.1. Process recommendations

The main purpose for undertaking this research project was to gain experience from the case of *A Year of Special Days* in order to inform environmental education programmes using resource materials in context. From this study it has been seen that the practice, which has worked well with the development and use of the booklet, was the reflection and action that was going on between the developers and users. The developers at SADC REEC in South Africa were taking advantage of why schools were requesting the booklet. This initial dialogue has been instrumental in making the adaptations in other SADC countries a success.

Another important scenario was that of the support that the educators were receiving from the developers at Share-Net which made it possible for the schools to be able to articulate various ways in which the booklet could be used to support learning. Where the booklet has enjoyed considerable success in use, it has been observed that there was a close relationship between its use and the support from an environmental

organisation like the DELTA Environmental Centre in South Africa (see Section 4.6) and Environment Africa in Zimbabwe (see Section 4.4.4). Educators do not always understand the way in which resources can be used and the support and collaboration that they got from developers was vital in that the developers had the opportunity of learning what works well in context and the educator was able to use the opportunity to enhance their own practice.

The flexibility with which the booklet is developed also helped in making the booklet part of a resource pack (see 5.3.2) and also its ability to be adapted with ease made it user friendly in many different contexts. Resource materials development at the SADC Centre should have the flexibility to be adopted, adapted and redeveloped by other users in the region so that professionals working in developing resource materials do not have to start from scratch because the chances are that they will be “re-inventing the wheel”, which may not necessarily be better than the one already there. In this way there would be closer cooperation among resource material developers and the use of materials can be tracked with relative ease.

Finally all materials developed by educators at the SADC Centre should continue to exist as “drafts” which are deliberated upon for each context and adapted/adopted accordingly. The potential for developing user friendly teaching and learning support materials is important as shown by the fact that certain sections of *A Year of Special Days*, like the calendar on the centre page, can be traced to many countries in southern Africa. In Zimbabwe the same calendar has been used since 2002.

6.3.2. Key issues to consider

Another recommendation that needs to be considered is establishing tracking systems for materials produced by the SADC REEC or in the home country, following programme activities (see Section 2.4.3). One way in which the development of resource materials could be tracked is by putting in place a system of participatory monitoring and evaluation (PM&E) where the developers become part of the evaluation as they trace the use of their resource in their work circles. The SADC REEC can request comments and evidence of use from past participants. A data base of past participants and the resource materials that they developed already exists at the SADC REEC in electronic format and this can be used more effectively by asking past participants for comments on how their materials are being put to use. PM&E provides an opportunity for the SADC REEP to focus better on their ultimate goal of strengthening environmental

learning in the SADC region not only through materials development but also through improved networking and increased training capacity enhanced through materials development. (See Section 2.1.5.) By broadening involvement in identifying and analysing change, a clearer picture can be gained of what is really happening on the ground.

6.3.3. Recommendation for research

As mentioned earlier the findings of this study will be made available to other researchers looking into the development and use of teaching and learning support materials and areas for further research will be opened as follows:

- i. *How does materials development compliment the other components of the SADC REEP?* (See section 2.2.4.) It has already emerged that those resource materials developers who come to the SADC Centre on an Attachment programme often initiate a network of professionals which has continued for a long time. Many of the participants at EEASA, for example have been through the SADC REEC in oneway or another. It is however not clear to what extent the EE network in the region has been influenced by resource materials development. Resource materials development can also be linked to the SADC REEP components of training as in capacity building and that of policy.
- ii. *How does materials development enhance the SADC Programme principles?* There are 12 principles as highlighted in the SADC Programme document, as follows: the principle of supporting a reflexive orientation, the principle of responsiveness, the principle of flexibility and structure, the principle of participation, the principle of partnerships, the principle of recognising diverse contexts, the principle of regionalisation, the principle of building on existing structures and research experience, the principle of transparency and accountability, the principle of process and product, the principle of open-endedness, the principle of monitoring, evaluation, research and reflexivity and finally the principle of relevance. (SADC, 2002: 21-25; Rosenberg, 2005: 106-125)
- iii. *How can the SADC REEP manage participatory monitoring and evaluation for materials developed at the SADC Centre for countries in southern Africa?* A major weakness picked up by the SADC Evaluation team in 2005 was that the resource materials development was not following up on the

materials that have been developed at the centre and that the extent to which these are being used effectively cannot therefore be ascertained, (see Section 2.4.3). This weakness may well lead to the perception that the materials materials produced during an attachment programme are poorly conceptualised.

- iv. *Shift the emphasis from developing more materials, to learning how to use them better, and to consider materials in learning processes.* There is now a real need for materials developers to shift emphasis from quantity to quality with a special emphasis on the poorly resourced schools. Materials development at the SADC REEC needs to explore the possibilities of making an impact on how the materials that already exist can be used more effectively.
- v. *What is the impact of seed funding on national resource materials development?* Some participants struggle to find ways to take materials developed with seed funding to a higher scale and into use (see Section 2.4.3). While it is vital for seed funding to find its way into member countries for materials development where there is need, it is equally important for the seed funding to be able to support those materials because where seed funding has been sourced for development purposes the chances are that there are no additional funds to support the materials in context. It will remain a weakness to continue funding materials development without putting in place a method of supporting those materials so that they are used in a more effective way. This is a case of quantity and quality.

6.4. Reflections on research methodology

The research methods I have used in this study have provided me with a wealth of experience, which has improved the way I look at research and my ability to explore the wide range of opportunities for professional growth and academic pursuits. I have learnt a great deal from shaping my research design decisions and coming up with the most 'appropriate' research methods. One of the most important benefits was the rigorous process of redesigning and reshaping my research decision, the aims of my study and the epistemological views that I held. The interpretive case study approach helped me to organise and understand my focus area and develop the tools of research that I decided were the best suited to my context.

The technique of first compiling all the responses into a summary and then into analytic memos was very helpful as it helped me to maintain the focus of where I was getting the responses. It also made it easy to track the comments and responses back to their original source. (See Appendices 1 to 9)

The use of workshops is an extremely useful way of collecting data, as the return rate of the responses is very high. Discussion is important in that participants will consider carefully before putting things down on paper. Workshops helped to clarify the real uses of the booklet as opposed to mere mentioning without actual use. One problem that I faced was that I ended up with too much data and I had to carefully consider my research question in order to sift only that which was directly relevant to my research focus. It is however not always possible to hold workshops due to the time and financial constraints involved. In my case I was able to take advantage of the EEASA Conference where I was fortunate enough to be allocated a session. The workshop however attracted only eight people from three SADC countries (three countries out of fourteen) because it was the last workshop of the conference and many potential participants had left. The remaining participants were also drawn to the UN Decade presentation, which proved to be more popular than a workshop on materials development. While this small sample was very productive, I feel I could have tapped information from more countries in southern Africa that were represented if the attendance had been higher. This in turn could have increased the number of countries in which the booklet and calendar are in use and also the different ways in which they are being used. The workshop in Harare was another rare opportunity, which I capitalised on as it had already been planned timeously. The five participants were very productive but I also feel the discussion would have risen to a higher level had all the fifteen participants been present (see Section 4.5.2).

The use of semi-structured interviews was very effective as I was able to probe and get as much as I could out of the respondents who had been carefully chosen through the questionnaires. The selection exercise from the questionnaires was very helpful as I was able to pinpoint a school that was engaging with the booklet to the extent that would warrant more probing. I had two other schools in mind before I had started to analyse the questionnaires but their responses were not good enough to warrant further probing as it emerged that they would not have anything more to say. On the other hand I had included NCS as just another sample but it turned out that they were more conversant with the special days calendar in their eco-schools programme. The use of a video recorder was very helpful because when I was playing it back I was able to capture finer details, which I had missed in my initial transcription. The pictures were also helpful in

bringing me back to the real scene of the interview, as it remained live. However, power relations need to be handled with care it took a lot of time to put the teachers at ease as during the interview at NCS. Somehow there was a feeling that I might be there to assess their eco-schools status. I was however able to get two good interviews after spending the whole morning with the teachers in the school. (See Section 5.4.4.)

If I were to conduct the interviews again I would include some learners as participants representing, the community and the government. I would also strongly consider a focus group interview for different groups of people working with the same school. Although I was able to capture what the teachers and the principal had to say, I missed the opportunity to capture the voice of the learners and community representatives. The evidence of learner activities was all over the school, but the learners' voices were not captured in the interviews. I also feel that the community and some partners at NCS could have enhanced the outcome of the study through a focus group discussion/interview.

6.5. Conclusion

As a synthesis of the study, I sum up the complexity of the relationship between the development and use of teaching and learning support materials, which is a crucial component of environmental learning. The value of the research study can be illustrated as follows. The research study on the booklet, *A Year of Special Days* was carried out with the view of using the lessons learnt as a framework for similar work in resource materials development at the SADC REEC and in southern Africa as a whole. As a resource materials developer with the SADC programme, the study has been able to articulate areas of strength that illuminate the potential areas to be considered in order to enhance environmental education resource materials development. This case study was able to open up conclusive areas of success in South Africa and Zimbabwe and at the same time exposed some weaknesses inherent in materials development. Developers of resource materials coming through the SADC REEC will benefit from the findings and will be given the opportunity to challenge them and also to come up with more insights. This study will be used as a starting point for debate on resource materials development in the region and also the mapping of the extent to which a resource is being used in the region can be very helpful.

The study can be carried forward in the context of teaching and learning materials in the SADC REEP, as it is not meant to be an end but a starting point. As mentioned earlier on the recommendations above,

generalisations are derived from investigating the development and use of resource materials, the case of the booklet *A Year of Special Days*. This was in relation to my work context as a resource material developer with the SADC REEP. My intention was obviously to strengthen my work practice and be able to inform other material developers in the SADC region who happen to be in the same position as I am.

In conclusion I would like to reiterate that environmental issues and risks are complex, they are contextual and they are contested and this is because they are intricately embedded in socio-political, socio-economic and socio-cultural contexts. In this study materials development was seen as a response to these issues and risks that need to be approached with extreme caution, as there is no single recipe for tackling the challenge. Because of this complexity, materials development needs to be reflexive and involve action and practice. It also needs to be flexible because of time and place context challenges hence the need for draft materials that can be redeveloped, adapted and adopted to suit different contexts. Finally, because the challenges are contested, there is obviously no single path which materials development can follow, it is a process which cannot be predetermined and which needs the implementation of praxis processes which involve learning through real life experiences.

REFERENCES

Arksey, H. and Knight, P. (1999). *Interviewing for social scientists*. London: Sage Publication.

Artiles, A.J., Hoffman-Kipp, P. & Lopez-Torres, L. (2003). *Beyond reflection: teacher learning as praxis: Theory Into Practice*. Retrieved August 25, 2005, from http://www.findarticles.com/p/articles/mi_m0NQM/is_3_42/ai_108442653

Althusser, L. (1988). *Essays on Ideology*, Verso 1988. Retrieved on August 25, 2005, from <http://en.wikipedia.org/wiki/Ideology>

Bakobi, B. & Russo, V. (2000). *Issues of sustainability*. Unpublished research report, SADC REEP, Howick.

Bassey, M. (1999). *Case study research in education settings*. Buckingham: Open University Press.

Beck, U. (1992). *Risk society: Towards a new modernity*. London: Sage.

Beck, U. (1999). *World risk society*. Cambridge: Sage.

Beck, U. Giddens, A. & Lash, S, (1994). *Reflexive modernization: politics, tradition and aesthetics in the modern social order*, Polity Press.

Carr, W. & Kemmis, S. (1986). *Becoming critical: education, knowledge and action research*. London: Falmer.

Cohen, I. & Manion, I. (1994). *Research methods in education* (4th ed.). London: Routledge.

Cohen, L., Manion, L. & Morrison, K. (2000). *Research methods in education* (5th edition). London: Routledge/Falmer.

Cornbleth, C. (1990). *Curriculum in context*. New York: Falmer Press.

Cornbleth, C. (Ed.). (2000). *Curriculum politics, policy, practice: A case in comparative context*. New York: State University of New York.

Connole, H. (1993). *The Research enterprise*. In H. Connole, B. Smith, R. Wiseman. *Issues and methods in research: study guide*, Underdale, S. Australia: Distance Education Centre, University of South Australia.

Czerniewicz, L., Murray, S. & Probyn, M. (2000). *The role of learning support materials in C2005. research paper for the national centre for curriculum research and development*. Pretoria: Department of Education.

Davies, K. A. (1999). *A year of special days*. Howick: Share-Net.

Davies, K. A. (2001). *A year of special days*. Howick: Share-Net.

Davies, K. A. (2004). *A year of special days*. Howick: Share-Net.

Davies, K. A. (2005). *A year of special days*. Howick: Share-Net.

Durrheim, K. & Wassenaar, D. (1999). *Putting design into process: Writing and evaluation research proposal*. In M. Terre Blanche & Durrheim (Eds.) *Research in practice: Applied methods for the social sciences* (pp. 54 – 71). Cape Town: University of Cape Town.

EEASA. (2003). *southern African journal of environmental education, vol. 21*, Grahamstown: Rhodes University.

EEASA. (2004). *southern African journal of environmental education, (20)*. Grahamstown: Rhodes University.

Edwards, D. (1990). *Case study research methods: A theoretical introduction and practical manual*. Rhodes University, Grahamstown.

Elliott, J. (1991). *Action research for educational change*, Allen and Unwin, London.

Fien, J. (1993). *Education for the environment: Critical curriculum theorizing and environmental education*. Geelong: Deakin University Press.

Freire, P. (1972). *Pedagogy of the oppressed*. London: Penguin Books.

Fortino, C. (2002). *An Inquiry-based model of professional development for environmental education*. *Journal of Teacher Education and Training*, (1), 81-86.

Giddens, A. (1990). *The consequences of modernity*. Cambridge: Polity.

Glaser, B. & Strauss, A. (1997). *The discovery of grounded theory strategies for qualitative research*. New York: Aldine Publishing Company.

Grundy, S. (1987). *Curriculum: Product or praxis?* London: The Falmer Press.

Hamaamba, T. (2004). *Training needs for municipal employees: a case study of Makana municipality*. Unpublished M.Ed. Thesis, Rhodes University, Grahamstown.

Janse van Rensburg, E. (1995). *Environmental education and research in southern Africa: A landscape of shifting priorities*. Unpublished PhD Thesis, Rhodes University, Grahamstown.

Janse van Rensburg, E. (2001). *An orientation to research*. Research methods short course lecture notes, Grahamstown: Rhodes University Environmental Education Unit.

Janse van Rensburg, E. & Le Roux, K. (1998). *Gold Fields participatory course in environmental education: An evaluation in process*. Grahamstown: Rhodes University Environmental Education Unit.

Janse van Rensburg, E. & Lotz, H. (1998). *Enabling environmental education as a cross-curricular concern in outcomes based learning programmes*. Howick: Share-Net.

Kitao, K. & Kitao, S. K. (1997). *Selecting and developing teaching/learning materials*: In the internet TESL journal, Vol. IV, No. 4, April 1997: Doshisha University, Kyoto. Retrieved August 25, 2005, from <http://iteslj.org/>

Kemmis, S. & McTaggart, R. (1988). *The Action research planner, 3rd ed*, Geelong: Deakin University.

Lash, S. (1994). "*Reflexivity and Its doubles: Structure, aesthetics, community*" and "*Expert-systems or situated interpretation? Culture and Institutions in disorganized capitalism*" in Ulrich Beck, Anthony. Giddens, and Scott Lash, *Reflexive modernization: Politics, tradition and aesthetics in the modern social order*. Cambridge: Polity Press.

Lash, S. & Wynne, B. (1992). Introduction. In Beck, U. *Risk Society: Towards a new modernity*. London: Sage.

Lather, P. (1986). *Research as praxis*. Harvard Education Review, 56: 256-279.

Le Grange, L. (2003). *Environment constructed: Perspectives from the south*. In Gouh, S. & Scott, W. Key Issues in sustainable and learning. A critical review. London: Routledge Falmer.

Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic inquiry*. California: Sage.

Littlejohn, A., & Windeatt, S. (1989). In Kitao, K. & Kitao, S. K. (1997). *Selecting and developing teaching/learning materials*. The Internet TESL Journal, Vol. IV, No. 4. Retrieved August 25, 2005, from <http://iteslj.org/>

Lotz, H. (1996). *The development of environmental education resource materials for junior primary education through teacher participation: The case of the we care primary project*, Unpublished PhD Thesis. Stellenbosch University, Cape Town.

Lotz, H. (Ed) (1999). *Developing curriculum frameworks*. Howick: SADC Regional Environmental Centre.

Lotz-Sisitka, H. (2004). *Positioning southern African environmental education in a changing political, economic, social natural and epistemological (environmental) landscape*. A discussion paper commissioned

by the SADC REEP for the purpose of informing the DANIDA-funded 'futures research'. Grahamstown: Rhodes University Environmental Education Unit.

Lotz-Sisitka, H. & Raven, G. (2001). *Active learning in OBE: Environmental learning in South African schools. Research report of the national environmental education programme – GET pilot research report.* Pretoria: Department of Education.

Lupele, J. (2002). *Action research case studies of participatory materials development in two community contexts in Zambia.* Unpublished M. Ed. Thesis, Rhodes University, Grahamstown.

Lupele, J. (2003). *Participatory materials development in rural Zambia.* In Southern African Journal of Environmental Education, Vol. (20), (2003) 85-96.

Maxwell, J.A. (1996). *Qualitative research design: an interactive approach.* Thousand Oaks: Sage Publication.

Mbanjwa, S. (2002). *The use of environmental education learning support materials in OBE: The case study of the creative solutions to waste project.* Unpublished M. Ed. Thesis, Rhodes University, Grahamstown.

McNaught, C. & Raubenheimer, C.D. (Eds). (1991) *Critical reflection on teachers in action: an evaluation report of the Natal primary science project;* Durban.

McTaggart, R. (1991). *Appendix: Appraising reports of enquiry;* In Deakin University, 2001. Research in Education and Training Course File, Geelong: Deakin University Press.

Motsa, E. (2003). *Praxis-based assignments for professional development in the Rhodes University / Swaziland participatory course in environmental education: The case of assignment four;* Unpublished Masters Thesis, Rhodes University, Grahamstown.

Murray, S. and Parker, B. (Eds) (1999). *SADC REEP mid-term review report,* Unpublished research report, SADC REEP, Howick.

Neuman, W. (2000). *Social research methods: Qualitative and quantitative approaches* (4th ed.). Boston: Allyn and Bacon.

O'Donoghue, R. (2001). *Environment and active learning. NEEP guidelines for facilitating and assessing active learning in OBE*. Howick: Share-Net.

O'Donoghue, R. & Janse van Rensburg, E. (2001). *Environment and methods*. Howick: Share-Net.

O'Donoghue, R. & Russo, V. (2003). *Environmental education and professional development: A review of methods and materials in/as developing patterns of practice in a southern African context*. Unpublished paper.

Parker, B. & Murray, S. (1999). *Mid-term review*. Unpublished research report, SADC REEP, Howick.

Patton, M Q. (1980). *Qualitative research and evaluation methods* (1st edition). London; Sage Publication.

Patton, M Q. (1990). *Qualitative research and evaluation methods* (2nd edition). London; Sage Publication.

Patton, M Q. (2001). *Qualitative research and evaluation methods* (3rd edition). London; Sage Publication.

Raven, G. (2004). *Course processes that enable the development of reflexive competence: A case study of an environmental education professional development course*. Unpublished PhD. Grahamstown, Rhodes University Environmental Education Unit.

Rhodes University. (2004). *An Interactive Trip Report: Participation, Learning and Action*. M.Ed. Environmental Education Core Text Notes 2004, Rhodes University, Grahamstown.

Robottom, I. (1998). *Towards enquiry-based professional development in environmental education*. In Robottom, I. (Ed.). *Environmental education: Practice and possibility*. Victoria: Deakin University.

Robottom, I. & Hart, P. (Eds.). (1993). *Research in environmental education. Engaging the debate.* Victoria: Deakin University.

Rosenberg, E. (2005). *SADC Regional environmental education programme evaluation 2005:* Howick. Share-Net.

Russo, V. (2003). *A Resource based learning approach to professional development, a case study of the ACEE (Rhodes University advanced certificate in environmental education.* Unpublished Masters Thesis. Rhodes University, Grahamstown.

Russo, V. & Lotz-Sisitka, H. (Eds.). (2003). *Development, adaptation and use of learning support materials.* Howick: Share-Net.

Southern African Development Community (SADC). (1996). *Policy and strategy for environment and sustainable development: Towards equity-led growth and sustainable development.* Maseru: SADC.

SADC. (1997). *SADC environmental education programme – Three year plan of operation budget 1st July 1997 to 30th June 2000.* Unpublished document, SADC, Maseru.

SADC. (2004). *Regional indicative strategic development plan.* SADC Gaborone.

SADC. (2004). *Southern African development community newsletter. SADC Today Volume 6 no. 6.* SADC, Gaborone.

SADC REEP (2000). *Annual report July 1999 – March 2000;* Unpublished report, SADC REEP, Howick.

SADC REEP (2001). *Annual report April 2000 – March 2001;* Unpublished report, SADC REEP, Howick.

SADC REEP (2002). *Annual report July 2001 – March 2002;* Unpublished report, SADC REEP, Howick.

SADC REEP. (2001). *Programme document.* SADC REEP, Howick.

SADC REEP. (2002). *Programme document.* SADC REEP, Howick.

SADC Regional Environmental Education Support. (REES). (2004). *Draft fourth progress report*. Share-Net, Howick.

SADC / Rhodes University International Certificate in Environmental Education course file. (2002). *Core text 4*. Rhodes University, Grahamstown.

Smith, M. K. (2005). *The encyclopedia of informal education*. Retrieved 5 September, 2005, from <http://www.infed.org/biblio/b-nonfor.htm>

Stake, R. E. (1995). *The art of case study research*. London: Sage Publication.

Stenhouse, L. (1978). *Case study and case records: Towards a contemporary history of education*. British Education Research Journal, 4, (2), 21-39.

Taylor, J. (1997). *Share-Net: A case study of environmental education resource materials development in a risk society*. Howick: Share-Net.

Terre-Blanche, M. T. & Durrheim. K. (1999). *Research in practice*. Cape Town: University of Cape Town Press.

Terre-Blanche, M. & Kelly, K. (1999). *Interpretive methods*. In M. Terre-Blanche & K. Durrheim (Eds). *Research in practice*. (pp.123-146). Cape Town: University of Cape Town Press.

The World Conservation Union (IUCN). (2004). *External review of IUCN commissions; Addendum to the review report - The Knowledge Products and Services Study*. IUCN.

Usher, R., Bryant, I, & Johnston, R. (1997). *Adult education and the postmodern challenge*. London: Routledge.

United Nations Conference on Environment and Development (UNCED). (1992). *Agenda 21*. Rio de Janeiro: UNCED.

United Nations Environment Programme (UNEP). (2002). *Global environmental outlook 3*. London: Earthscan.

United Nations World Summit on Sustainable Development. (UNWSSD). (2002). *Plan of implementation. Johannesburg summit*. Retrieved August 25, 2005 from http://www.johannesburgsummit.org/html/documents/summit_docs/2309_planfinal.htm

Ward, M. R. (2003). *Sustainable development initiatives: A study of the SADC regional environmental education programme*. Unpublished Masters Thesis. Lund University, Sweden.

Wolcott, H. F. (1992). *Posturing in qualitative research*. In LeCompte, M. Millroy, W.L. & Preissle, J. (Eds). *The handbook of qualitative research in education*. London: Academic Press.

Wright, T. (2005). *Critical programming for mass communications*. Forum98c. Retrieved August 25, 2005, from <http://www2.tlct.ttu.edu/reeves/Forum98c/00000070.htm>

Yin, R. K. (1989). *Case study research: Design and methods* (2nd ed.). California: Sage Publication.

PERSONAL COMMUNICATION

Bhunu, N. (2005, May 24) Project Manager, Action Magazine, Harare, Zimbabwe.

Davies, K. (2005, April 08) Anglican Church Diocese of Uzimvumbu, Korkstad, South Africa.

Mandikonza, C. (2005, June 02) Lecturer, Mutare Teachers College, Mutare, Zimbabwe.

Mathabathe, A. (2005, July 08) Public Relations Officer, Colect a can, Johannesburg, South Africa.

Mbamanovandu, E. T. (2005, May 18) Technical Adviser, Supporting Environmental Education Namibia, Lusaka, Zambia.

Mawire, B. (2005, May 26) Environment Africa, Harare, Zimbabwe.

Mogotsi, B. (2005, May 18) Botswana Council of Non Governmental Organisations, Lusaka, Zambia.

Mushayi, P. (2005, May 27) Community member, Mapfuwa School, Rusape, Zimbabwe.

Peddie, C. (2005, August 05) Manager Share-Net, Howick, South Africa.

Rumsurup, P. (2005, July 08) National Environmental Education Programme - GET, Pretoria, South Africa.

Sooknah, K. (2005, May 10) Environmental Clubs of Mauritius, Howick, South Africa.

Taylor, J. (2005, March 04; August 09) SADC REEP Director, Howick, South Africa.

Ward, K. 01 (2005, March 04; August 09; August 11) Eco Schools National Coordinator, Howick, South Africa.

Zazu, C. (2005, March 05) Sebakwe Conservation Trust, Kwekwe, Zimbabwe.

APPENDIX 1

Questionnaire Responses (QR)

Questionnaire Response 01 a; Original Author (Davies, K) {QR 01 (a)}

The purpose of the questionnaire is to find out;

- The author's intention; why was the booklet developed?
- For who was the booklet developed?

About The Booklet
i. Describe how you contributed to the development of the booklet/calendar.
In 1996 I registered for the Goldfields course and developed 'A Year of Special Days' as my fourth assignment. I researched and wrote the descriptions of the special days myself, but collaborated with my husband, Geoff Davies, an Anglican Bishop and Bob and Nelda Thelin, two Mennonite volunteers who were working with us on sustainable agriculture and land use projects in the Diocese of Umzimvubu in the Transkei. It needed to be a collaborative effort as I did not have a broad working knowledge of biblical texts, nor did I have the resources or experience to compile the prayers.
ii. For whom was this booklet being developed?
It is nine years since I originally put the booklet together. Being asked the question now – why I developed the resource - I thought I had intended it for use by schools and faith groups, (in particular a Christian context because the prayers and readings were essentially Judeo-Christian). In looking back on my reflections, written in November 1996, I see with great interest, that I did not mention schools at all! I know I had hoped to include prayers and readings from other faith contexts because I have always felt strongly that the world is not partisan. Caring for the environment is one area that the human race, of all faiths and creeds, ought to be able to co-operate over!
iii. Why was the booklet, <i>A Year of Special Days</i>, developed?
<i>I Quote from my reflections of 1996: The resource was developed as a follow-up to the World Environment day services held in Kokstad in 1995 and in Mpumalanga in 1996. There was some concern that these services were an expensive 'one-off' event, which only touched the lives of a few people in a particular geographic location for a brief moment. Partly through ignorance, faith communities have been slow to recognize and respond to the call in their doctrines, writings and teachings to be involved in 'earth keeping.</i>

I believe that most members of faith communities need simple, non-specialist and easily accessible low cost information about environmental issues. They do not need academic theses or long-winded policy documents or instructions couched in theological language. They also don't need emotional and sometimes irrational appeals or petitions. The UN and South African Special days offered a simple opportunity to combine justice, peace and environment issues in an informative booklet which, in this case, is designed for Christian communities."

"Environmental issues cannot be seen in isolation. This little book attempts to give a brief history and explain the social, political, economic and ecological concerns that are highlighted in our calendar year. It was intended to help raise the general level of consciousness about the interconnectedness of all justice issues in a faith context. At this time, many in the Christian community in South Africa have been caught up in the struggle for socio-political justice and transformation. Many people feel that ecological justice is still a luxury concern of the white minority and conservationists who haven't acknowledged the human suffering incurred by people under Apartheid. It is hoped that this resource will help embed ecological justice along with the other justice issues in the new democratic South Africa."

In 1990, I attended the World Council of Churches Conference on Justice, Peace and the Integrity of Creation in Seoul, South Korea, as an Anglican Church delegate. I was acutely aware that I was seen by many of the Black South African delegates, who had gone to the conference with a specific social justice agenda, to be representing an elitist, 'white', conservationist perspective. I knew that if I developed any resource for the Christian Church it would need to embrace both socio-political and ecological concerns. It could be a way of bringing the 'green' and the 'brown' perspectives together.

iv. Does it still serve its original purpose? Explain why you say so

The purpose of the booklet was taken out of my hands once it reached the shelves of Share-net. However, copies were sent out to all the member churches of the South African Council of Churches (SACC) and I believe to all Anglican parishes in South Africa. I probably heard from no more than 5 parishes – thanking me, giving me advice or recommending minor changes. I know of one parish that used the booklet for a few years (contact Jacques Pretorius – a previous Rector of the Anglican parish in Howick. Jacques helped Share-Net expand the prayers when extra days were added in later editions. He is now living in the Dargle) and I believe that the Diocese of Natal Environment Committee has also used it for a resource (Contact Mike Cottrell cottrell@mweb.co.za).

I think there are three main reasons why the book has not and is no longer being used to any great extent in the faith context.

1. The prayers and bible readings have been removed so it no longer has a faith context.
2. The environment is not yet seriously on the agenda of most Christian and faith communities. I also think that the organizers of liturgy and worship in parishes often don't know how to mainstream the environment into their worship framework. Many denominations have particular lessons set out for each day of the year which they follow, (sometimes, to my mind, unimaginatively!)
With growing awareness, there is a move afoot amongst some Christian Churches to celebrate special days – there might be a renewed interest in the book if it were made available to parishes now, ten years since it was first developed.
3. Faith communities do not know about Share-net resources. It would probably have been more widely used in Christian circles had it been distributed through Christian bookshops.

v. If the booklet were to be developed again or revised, what would you change?

If I reworked the resource, I would do a companion booklet for faith communities with texts, readings and prayers from many different faiths including stories from African traditional religions. (I hope this will become a reality in the future). I fully understand the reason why the biblical references and prayers were removed. Although I did not intend it, I think there was justification for it to have been offensive to people of faiths other than Christian.

I think a newly developed 'faith story' resource could be fruitfully used by schools alongside the original 'Year of special days'. I say this because I have spoken to a number of teachers (in the Transkei) who were disappointed when the prayers were removed from the original booklet. So much so that I have given them copies of the prayers and readings that were used as an insert in the intervening years before they were dropped altogether. I have noticed from my work in rural schools that the faith context sometimes gives teachers and schools something familiar to hang a special day on. It might also help bring about improved awareness and with it, greater tolerance and fewer misconceptions about people of other faiths.

I quote from the following from notes which I made when I first completed the resource in 1996:

In retrospect..... It was difficult to imagine how ideas and plans for a resource such as this would change and develop over time and turn out in the end' (I reiterate this 9 years later!). I am satisfied with the product as a first step – though I don't know how it will be received. Had I not had the time constraints of finishing the Goldfields Course, I would like to have developed a few other ideas: black and white illustrations for each day which could be 'blown up' and photocopied in order to use as a teaching resource for people who do not read or understand English and for children (and adults), who cannot engage with written texts. Expand the booklet to include readings from other faiths in order to make it more inclusive and relevant to all South Africans.

I think I would still agree with these sentiments now. I think language has become an issue, which needs to be addresses when developing resources, which have such a wide target audience.

Quoting again from my reflections in 1996:

"What I learnt from developing the resource was something that underpinned my own gut feelings – that environmental issues cannot be divorced from our history and the social, political, economic, ecological and spiritual fabric of our community life. This made it logical to incorporate social, political, and economic themes alongside the ecological issues in the book. One of the criticisms leveled at the Christian church today is that it can have a narrow and sometimes exclusive worldview. I hope that 'Special Days' will help show members of Christian communities a broader perspective. It might also encourage people to play a simple, practical and positive role in helping to alleviate some of the suffering of our land."

vi. How has the booklet influenced you?

I continue to be amazed at the journey 'A year of Special Days' has traveled and the metamorphosis it has undergone since its original conception as a simple Goldfields assignment. It certainly gave me the confidence to know that with encouragement, we are all capable of doing something useful. I value this and try to remind myself of that experience as I work with students presently doing the Goldfields course.

It has also showed me the value of partnerships and collaboration. I believe that the book is now being used largely in the formal education sector. This is because it has been remodeled and promoted by people working in this field. I think the book might now be well received in a faith context if I spent time working on it with faith community partners.

Questionnaire Responses 01 b; South Africa Developers at Share – Net {QR 01 (b)}:

The purpose of the questionnaire is to find out;

- The intention of the developers; why was the booklet developed?
- For who was the booklet developed?

vii. Describe how you contributed to the development of the booklet/calendar.	
Responses from Developers	Data Source
Share-Net has contributed to the on-going development of the booklet. I am not aware of us contributing to the initial development of the booklet (this was Kate Davies, idea for her final Goldfields assignment). Our contributions include updating the booklet on an annual basis, adding in relevant or new days/weeks if appropriate, revising the 'guiding questions' etc	Clare Peddie Share-Net
Helped Kate as part of her assignment	Jim Taylor SADC REEP
Kate Davis developed the booklet as part of an assignment on the Goldfields course. I was her tutor for the course so (I) helped (her) with the ideas that informed it, and with the format and content. It was decided to use the Share-Net booklet format (with centre page as index – therefore the calendar formed the centre page) because this was working so well already.	Kim Ward Eco-Schools
viii. Question: For whom was this book/calendar developed?	
You would have to ask Kate Davies this – I imagine it would have been the teachers.	Clare Peddie
Teachers, community workers, NGO's and Govt departments.	Jim Taylor
Kate's main idea for developing the booklet, as the wife of an Anglican bishop and working with local schools in Kokstadt, was to support schools to celebrate environmental days and a short prayer and Bible reading was included for each day. Christian schools found these readings and prayers very helpful for assemblies. As the booklet came to be used more widely by schools across South Africa, it was decided not to include the prayers for fear of introducing a Christian bias. Instead a separate prayer sheet was included with the book and an attempt made to gather prayers and spiritual additions from other South African religions.	Kim Ward
iii. Why was the booklet, <i>A Year of Special Days</i>, developed?	
Ask Kate	Clare Peddie
Answered in i and ii above	Jim Taylor
To support better planning and action for special days	Kim Ward

iv. Does it still serve its original purpose? Explain why you say so.	
Definitely, in fact probably more so than its early days. We now need to have the booklet ready by November of the previous year as teachers request it for the following year to start organising days and events. It is now also part of the Eco-Schools Toolkit; with one of the focus areas of the Eco-Schools programme being environmental days.	Clare Peddie
Very, very much so. It is widely used and has been reprinted many times.	Jim Taylor
Yes, it is still an extremely useful planning tool for schools for using to plan for the year. We get numerous requests to Share-Net each year from October onwards for an updated version for the following year, as this is when schools start planning.	Kim Ward
v. If the booklet were to be developed again or revised, what would you change?	
Nothing at the moment. We are, however, always open to new suggestions and comments and there's always something new/slightly amended that seems to happen when the book is being updated.	Clare Peddie
We change it each year anyway – as people require differences and as we think of better things.	Jim Taylor
As we do each year it is important to update the calendar and add in any new days that may have been developed. If funding was available it would be good to employ an artist to design some simple black and white posters on a4 that could be enlarged on a school photocopier to A3 and coloured by learners for publicising and celebrating some of the days. These posters could be folded and could accompany the booklet.	Kim Ward
vi. How has the booklet influenced you?	
I don't think I would use a strong a word as 'influenced' me but it certainly is an incredibly useful little booklet to send out a page on a particular day or perhaps fax through the middle page for teachers and educators to plan around specific days.	Clare Peddie
Made life easier and better organised. Able to respond better to requests.	Jim Taylor
It has been an extremely useful tool to be able to support schools with planning and environmental policy development. Now it is a key part of the Eco-Schools toolkit and I am very grateful that it is available and updated each year.	Kim Ward

Questionnaire Responses 01 c; Developers in Zimbabwe & Angola (QR 01 (c))

i. Question: Describe how you contributed to the development of the booklet/calendar.	
Responses From Developers	Data Source
Action Magazine was the secretariat hosting their Environmental Liaison Forum of Zimbabwe Taskforce on special days. I (Naison Bhunu) was the chairman of the committee on special days. Kasbert Chigwitana also of action magazine was in this committee. I was therefore part of the advisory role (players) and we produced the design and provided the paper for free. The booklet was produced by Action Magazine in-house; and printing costs were incurred by Action.	Naison Bhunu Action Magazine
I was part of the editorial team, which wanted to adapt the booklet to suit Zimbabwean context. I did a few write-ups and proof reading of the booklet.	Clayton Zazu Sebakwe Conservation Trust
On the occasion of development of the new version of the booklet, I was tasked to collect new information and data that gave valuable inputs for the inclusion of new special days, such as World Teachers' Day (5 October), World Development Day (24 October), World Human Rights Day (10 December). Etc.	Ecological Youth Angola
ii. Question: For whom was this book/calendar developed?	
For NGO field officers working with communities and schools. Also NGOs working with the environment. For the government it was produced for the Ministry of Education and the Ministry of Environment and Tourism. (Civil servants, the media and extension workers) The slant was however towards schools for the teachers working with students in environment education.	Naison Bhunu
Users of the booklet were; schools, municipalities, city councils and all organisations working in environmental field in Zimbabwe.	Clayton Zazu
This booklet was developed for students, especially those participating in the Environmental Olympics programme. This has also helped environmentalists and a diverse range of institutions and organisations.	Angola

iii. Why was the booklet, <i>A Year of Special Days</i>, developed?	
To highlight and make aware of the environmental issues through special days. To provide information on the special days. To influence policy when planning. To change perceptions.	Naison Bhunu
The aim was to create public awareness on the special environmental days in Zimbabwe as well as to help schools, organisations and individuals with interest in environmental issues, to plan for the commemoration of particular special days. The booklet was meant to be planning tool.	Clayton Zazu
Because of lack of information on special days, helping people and students to participate actively in environmental education activities by suggesting actions and projects.	Angola
iv. Does it still serve its original purpose? Explain why you say so.	
Yes. The number of the booklets distributed was limited. Most of the booklets were distributed to Harare schools. Other schools that received the books outside Harare were those where ELF members were active. An Annual EE Expo held at Mukuwisi Woodlands where the book is used for commemorating the World Environment Day. It was also used to commemorate the World Wetlands Day in Wedza and the mountains day in Mutoko.	Naison Bhunu
The booklet is still serving the same purpose. Schools and organisations in Zimbabwe are still using the booklet even though it has not been updated to 2004/2005, to plan for the commemoration of special days e.g. clean up campaign, Ozone day, or World Environment Day.	Clayton Zazu
Yes. Because the environmental Olympics programme (is) still operating, and there is lack of information on such special days at school and community level. Different people and institutions in and out of school have used this booklet.	Angola
v. If the booklet were to be developed again or revised, what would you change?	
Suggested activities were very useful. I am not sure how it relates to policy but I am sure it can be used to influence policy makers. Different groups of people working for the environment should see the value of special days when they are linked. Its power in uniting different groups working with special days such as Water, Energy and Natural Resources to show how they are related.	Naison Bhunu

I would certainly change (1) lead organisations for each special day as these have also changed. (2) Include more organisations e.g. churches, and HIV/AIDS organisations. (3) Add more examples of what can people do to make a special day. (4) Consider producing a Shona and Ndebele version of the booklet.	Clayton Zazu
I would introduce new environmental days celebrated at national, regional (SADC) and international levels, including African Environment Day and World Volunteer Day.	Angola
vi. How has the booklet influenced you?	
We use an integrated approach; we use both the integrated approach. The booklet is all embracing taking into consideration social, political, economic and environmental days. We also use it as source book for information. We also use it for lobbying.	Naison Bhunu
It has made me realise that environmental issues are global in nature even if they unfold in different ways locally. It shows me how the whole world is concerned about certain environmental issues that have also changed my own perception of environmental issues and environmental responsibility.	Clayton Zazu
It gave new Horizons on the special days. It encouraged me to research on the why of these days and their importance and context at community level, having as principle thinking globally, acting locally.	Angola

Questionnaire Responses 02; School Users (QR 02)

i. For how long have you used the booklet, A Year of Special Days?	
Responses From Users	Data Source
8 years	EHS
4 years	HHS
1 year	TPS
1 year	HPS
2 years	ISS
We have been receiving the book for quite a few years now	SPS
2 years	NCS
In 2002	SPS Zim
Since its publication and presentation date (2003)	JEA Angola
ii. Describe the different contexts in which you have worked with the book	
Celebrating various holidays or special days at school assemblies or in environmental club meetings. Using the information for learning programmes e.g. Water week, abhor day, wetlands day	EHS
It is not used exactly on extensively but referred to and incorporated as needed	SPS
Observing some of the special days and being involved in suitable activities.	HPS
Human rights day and National Water week before the arrival of the booklet.	TPS
Celebrating water week, wetlands weed, freedom day, world AIDS Day, Women's Day	ISS
It was delivered to our school from Action (Magazine).	SPS Zim
I used the A Year of Special Days at the awareness meetings, in the organisation's radio programme, environmental lessons on school, or at the commemorative date.	JEA Angola
iii. Identify the changes that you have observed?	
A bit more detail each year. More possible activities and contact addresses (websites) No more religious references.	EHS

We have used the book for only a year	HPS
It is more informative and clearly understandable each and every special day has got its own historical origin	ISS
What interested me much are the activities and educator has to focus on and that they are in line with the curriculum.	TPS
It is still the same, nothing has changed	SPS Zim
More world and national dates have been included in the book other non-environmental dates has been considered, ideas and activities are propose (d) to the dates, the texts presents a global overview and explanation.	JEA Angola
vii. What are your comments about these changes?	
Helpful in the classroom context and for research purposes	EHS
I cannot comment about the changes because it is my first year in the project.	TPS
It has made it a user friendly and it has encouraged activities among the learners to plan their activities in advance The environment activities have led to the reduction of water and electricity bill as well as littering and encouraged environmental activities	ISS
The changes are good, show the best work to improve the book, its more specific and promote action through the youth groups, NGOs and students class of readers.	JEA Angola
About the booklet	
i. Who is using the booklet in your institution?	
Geography and biology teachers; Enviro clubs	EHS
The educators and the learners	HPS
Both educators and grade 6 and 7 learners	TPS
Teachers club members (4H) learners club Masisebenzisane (community organisation)	ISS
Monthly the grade 8 and 9 teachers – history especially, also natural sciences, geography, maths and art & culture	HHS
It is available to all teachers and they are encouraged to make use of it	SPS
Myself and other teachers at the school.	SPS Zim

In (my) institution everybody uses the A Year of Special Days booklet, from the management to ordinary members.	JEA Angola
ii. Describe ways in which the booklet is being used	
Reference for research assignments in the classroom Focal point for meetings – discussions are held	EHS
Referring to it in order to observe the special days	HPS
To celebrate important days. To prepare lessons	TPS
Identify celebrations of special days in the school calendar so that we prepare in advance and we also use it when we prepare our lessons. The learners use it as well when they go to research in their assignments and projects.	ISS
The calendar showing the commemorative days is displayed in the staff marking room. Teachers however need constant cajoling and I think the expense of photocopying the booklet (1 copy for each subject department) will be justified. This can be referred to when the department has its meeting once every two weeks	HHS
We teach biblical principles at school and every week we highlight one. These topics are presented at assemblies and when possible the topics in the booklet are referred to.	SPS
We use the booklet with our school, clubs for environmental conservation, peer education and interact club. We use it to plan for school based activities to mark special environmental days like World Clean-up Day or Ozone Day	SPS Zim
iii. With whom is the book being used?	
Learners of all grades	EHS
Learners, educators and people from WESSA	HPS
With learners / teachers and community	ISS
G 8 and 9 classes mostly	HHS
School clubs for environmental conservation, peer education and interact club	SPS Zim
The book is used in primary and second (ary) schools, community and youth groups, religious youth groups, singular peoples and library.	JEA Angola

iv. What do the learners actually do?	
Use the information provided for research assignments / essays etc Look up extra information from the internet	EHS
Performing specific activities e.g. planting trees during the abhor week	HPS
Reading activities / lessons through handout photo copied from the booklet	TPS
They study the importance of special days, prepare the activities in advance and when they are given assignments or projects for investigation and research	
The learners' stage songs or play in assembly (Freedom Day) They are reminded in history of human rights – make colourful and eye-catching posters, which are placed on walls around the school. For National water week the G 8s monitored water consumption in their homes, drew graphs of this, which initiated discussions. Geography department made pupils aware of droughts, dam levels, water disasters etc	HHS
Consult the book for ephemeredes or learning about the activities proposed in the book.	JEA
v. Who else is using the book?	
The school secretary and the school chaplain	EHS
The school governing body and the community organisation	ISS
Various subject departments	HHS
The capital Radio station and some TV station programmes	JEA
vi. How are they using it?	
The secretary sometimes puts information about special days in the daily notices that are read by the teachers and learners on a daily basis e.g. Youth Day, Earth Day, Abhor day, etc. The chaplain sometimes makes reference to special days in her stories and chapel service	EHS
To prepare in advance about the activities they will be performing so they prepare prior (to) and make arrangements	ISS
We use it to plan for the school based activities to mark special environmental days like World Clean-Up Day or Ozone Day	SPS Zim

APPENDIX 2

Questionnaire Summaries (QS)

Questionnaire Summary 01 a; South African Developers {QS 01 (a)}

Abbreviations

Kim Ward	QS 01 (a) KW
Jim Taylor	QS 01 (a) JT
Clare Peddie	QS 01 (a) CP
Kate Davies	QS 01 (a) KD

Question	Responses	Data Source
For whom was this book/calendar developed	<ul style="list-style-type: none"> <input type="checkbox"/> To support schools to celebrate environmental days and a short prayer and Bible reading <input type="checkbox"/> Christian schools found these readings and prayers very helpful for assemblies <input type="checkbox"/> Teachers, community workers, NGO's and Govt. depts. <input type="checkbox"/> 'I see with great interest that I did not mention schools at all' <input type="checkbox"/> I had intended it for use by schools and faith groups <input type="checkbox"/> In particular a Christian context because the prayers and readings were essentially Judeo-Christian <input type="checkbox"/> In this case, is designed for Christian communities 	<p>{QR 01 (b)} KW</p> <p>{QR 01 (b)} KW</p> <p>{QR 01 (b)} JT</p> <p>{QR 01 (a)} K.D</p> <p>{QR 01 (a)} KD</p> <p>{QR 01 (a)} KD</p> <p>{QR 01 (a)} KD</p>
Why was the booklet, <i>A Year of Special Days</i>, developed	<ul style="list-style-type: none"> <input type="checkbox"/> Support better planning and action for special days <input type="checkbox"/> Faith communities have been slow to recognize and respond to the call in their doctrines, writings and teachings to be involved in 'earth keeping' <input type="checkbox"/> It was intended to help raise the general level of consciousness about the interconnectedness of all justice issues in a faith context <input type="checkbox"/> It is hoped that this resource will help embed ecological justice along with the other justice issues in the new democratic South Africa <input type="checkbox"/> Resource for the Christian Church it would need to embrace both socio-political and ecological concerns <input type="checkbox"/> 	<p>{QR 01 (b)} JT</p> <p>{QR 01 (a)} KD</p> <p>{QR 01 (a)} KD</p> <p>{QR 01 (a)} KD</p> <p>{QR 01 (a)} KD</p>
Does it still serve its original purpose	<ul style="list-style-type: none"> <input type="checkbox"/> Definitely, in fact probably more so than its early days. We now need to have the booklet ready by November of the previous <input type="checkbox"/> It is still an extremely useful planning tool for schools for using to plan for the year. / We get numerous requests to Share-Net each year from October onwards for an updated version for the following year / It is widely used 	<p>{QR 01 (b)} CP</p> <p>{QR 01 (b)} CP / KW</p> <p>{QR 01 (b)} JT</p>

	<p>and has been reprinted many times</p> <ul style="list-style-type: none"> ❑ The purpose of the booklet was taken out of my hands once it reached the shelves of Share-net. ❑ The prayers and bible readings have been removed so it no longer has a faith context 	<p>{QR 01 (a)} KD</p> <p>{QR 01 (a)} KD</p>
<p>If the booklet were to be developed again or revised, what would you change?</p>	<ul style="list-style-type: none"> ❑ I would do a companion booklet for faith communities with texts, readings and prayers from many different faiths including stories from African traditional religions. ❑ I think a newly developed 'faith story' resource could be fruitfully used by schools alongside the original 'Year of special days' 	<p>{QR 01 (a)} KD</p> <p>{QR 01 (a)} KD</p>

Questionnaire Summary 01; South Africa Users {QS 01 (b)}

Abbreviations

Epworth High School	QS 01 (b) EHS
Hawkstone Primary School	QS 01 (b) HPS
Howick High School	QS 01 (b) HHS
Injoloba Secondary School	QS 01 (b) ISS
Nottingham Combined School	QS 01 (b) NCS
Scottsville Primary School	QS 01 (b) SPS
Trianda Primary School	QS 01 (b) TPS

Question	Responses	Data Source
<p>Describe the different contexts in which you have worked with the book</p>	<ul style="list-style-type: none"> ❑ Celebrating various holidays or special days at school assemblies / Observing some of the special days ❑ In environmental club meetings ❑ Using the information for learning programmes e.g. Water week, abhor day, wetlands day ❑ Referred to and incorporated as needed ❑ Human rights day and National Water week before the arrival of the booklet / Celebrating water week, wetlands weed, freedom day, world AIDS Day, Women's Day. ❑ It is now also part of the Eco-Schools Toolkit; with one of the focus areas of the Eco-Schools programme being environmental days. ❑ To work on the wetland in the school grounds and rehabilitate it to its original status ❑ To encourage our learners to have a sense of planting more trees so that we replace those that are cleared ❑ The school year plan also uses the policy as the special days earmarked for celebration 	<p>(QR 02) EHS/HPS</p> <p>(QR 02) EHS</p> <p>(QR 02) EHS</p> <p>(QR 02) SPS</p> <p>(QR 02) TPS/ISS</p> <p>{QR 01 (b)} CP / KW</p> <p>(QR 02) NCS</p> <p>(QR 02) NCS</p> <p>(QR 02) NCS</p>
<p>Who is using the</p>	<ul style="list-style-type: none"> ❑ Geography and biology teachers; / grade 8 and 9 teachers – history especially, also natural sciences, geography, maths and art & culture ❑ Environmental clubs / learners club 	<p>(QR 02) EHS/HHS</p> <p>(QR 02) EHS/ISS</p> <p>(QR 02) HPS / TPS /</p>

booklet in your institution?	<ul style="list-style-type: none"> ❑ The educators and the learners / Both educators and grade 6 and 7 learners / Teachers club members (4H) learners club ❑ Masisebenzisane (community organisation) ❑ All the lessons planned for that week with the focus for that special day ❑ We have got support from the school management committee 	ISS (QR 02) ISS (QR 02) NCS (QR 02) NCS
Describe ways in which the booklet is being used	<ul style="list-style-type: none"> ❑ Reference for research assignments in the classroom / The learners use it as well when they go to research in their assignments and projects ❑ Referring to it in order to observe the special days / to celebrate important days. / Identify celebrations of special days in the school calendar ❑ To prepare lessons / when we prepare our lessons ❑ This can be referred to when the department has its meeting once every two weeks ❑ We teach biblical principles at school and every week we highlight one ❑ These topics are presented at assemblies ❑ We have got three focus areas, i.e. A Healthy Environment, School Calendar and School grounds and fieldwork ❑ The school is also working on its school garden and fieldwork where they are planting vegetable gardens, planting trees and improving the school playing grounds 	(QR 02) EHS/IHS (QR 02) HPS/TPS /IHS (QR 02) TPS / IHS (QR 02) HHS (QR 02) SPS (QR 02) SPS (QR 02) NCS (QR 02) NCS
With whom is the book being used	<ul style="list-style-type: none"> ❑ Learners of all grades / G 8 and 9 classes ❑ Learners, educators / With learners / teachers and community ❑ and community ❑ All teachers and learners in the school 	(QR 02) EHS/HHS (QR 02) HPS/ISS (QR 02) ISS (QR 02) NCS
What do the learners actually do?	<ul style="list-style-type: none"> ❑ Use the information provided for research assignments / essays;/ prepare the activities in advance and when they are given assignments or projects for investigation and research ❑ Look up extra information from the internet ❑ Performing specific activities e.g. planting trees during the abhor week ❑ Reading activities / lessons through handout photo copied from the booklet / They are reminded in history of human rights ❑ The learners stage songs or play in assembly (Freedom Day) ❑ For National water week the G 8s monitored water consumption in their homes, drew graphs of this, which initiated discussions ❑ They have come up with the suggestion of building a 	(QR 02) EHS/ISS (QR 02) EHS (QR 02) HPS (QR 02) TPS/HHS (QR 02) HHS (QR 02) HHS (QR 02) NCS

	<ul style="list-style-type: none"> bridge across the wetland which floods in summer □ They are planting vegetable gardens, planting trees and improving the school playing grounds □ They are the initiators of all the projects in the school □ 	<p>(QR 02) NCS</p> <p>(QR 02) NCS</p>
--	--	---------------------------------------

Question	Response	Data Source
Who else is using the book?	<ul style="list-style-type: none"> □ The school secretary and the school chaplain □ The school governing body and the community organisation □ Various subject departments 	<p>(QR 02) EHS</p> <p>(QR 02) ISS</p> <p>(QR 02) HHS</p>
How are they using it?	<ul style="list-style-type: none"> □ The secretary sometimes puts information about special days in the daily notices that are read by the teachers and learners on a daily basis e.g. Youth Day, Earth Day, Abhor day, etc. The chaplain sometimes makes reference to special days in her stories and chapel service □ To prepare in advance about the activities they will be performing so they prepare prior (to) and make arrangements 	<p>(QR 02) EHS</p> <p>(QR 02) ISS</p>

What do the learners actually do?	<input type="checkbox"/> We use it to plan for the school based activities to mark special environmental days like World Clean-Up Day or Ozone Day	(QR 02) SPS
--	--	-------------

Question	Response	Data Source
Who else is using the book?	<input type="checkbox"/> The capital Radio station and some TV station programmes	(QR 02) ANGOLA
How are they using it?	<input type="checkbox"/> We use it to plan for the school based activities to mark special environmental days like World Clean-Up Day or Ozone Day	(QR 02) Zimbabwe

APPENDIX 3

Analytic Memo 01 (AM 01)

Analytic Memo 01 (from Questionnaire Summary 01 & 02)

Abbreviations of respondents (developers of the booklet)

Kim Ward (KW) Jim Taylor (JT) Clare Peddie (CP) Kate Davies (KD) – South Africa

Naison Bhunu (NB) Clayton Zazu (CZ) - Zimbabwe

Developers (In Theory) Analytic Memo 01

{AM 01 (a)}

Categories of Intended Use	Sub – Categories of Intended Use	Intended Use	Data Source
Formal Education	<input type="checkbox"/> School Administration	⇒ To support better planning and action for special days ⇒ To influence policy when planning / The booklet was meant to be planning tool	{OS 01 (a)} JT {OS 02 (a)} NB
<input type="checkbox"/> Schools and <input type="checkbox"/> Colleges	<input type="checkbox"/> Christian Education	⇒ Christian schools found these readings and prayers very helpful for assemblies ⇒ To support schools to celebrate environmental days and a short prayer and Bible reading ⇒ The prayers and readings were essentially Judeo-Christian	{OS 01 (a)} KW {{OS 01 (a)} KW {OS 01 (a)} KD
	<input type="checkbox"/> Teaching and Learning	⇒ I had intended it for use by schools and faith groups ⇒ For the teachers working with students in environment education	{OS 01 (a)} KD {OS 02 (a)} NB / CZ
Non - Formal Education			
<input type="checkbox"/> Schools and Colleges <input type="checkbox"/> EE Centres	<input type="checkbox"/> School Community Outreach	⇒ NGO field officers working with communities and schools	{OS 02 (a)} NB
	<input type="checkbox"/> Commemoration of Special Days	⇒ It was intended to help raise the general level of consciousness about the interconnectedness of all justice issues in a faith context	{OS 01 (a)} KD
	<input type="checkbox"/> Information and Awareness	⇒ To highlight and make aware of the environmental issues ⇒ To provide information on the special days	{OS 02 (a)} NB / CZ {OS 02 (a)} NB
Informal Formal Education			
<input type="checkbox"/> Government Ministries <input type="checkbox"/> NGOs	<input type="checkbox"/> National Commemorations	⇒ Ministry of Education and the Ministry of Environment and Tourism	{OS 02 (a)} NB
	<input type="checkbox"/> Information and Awareness	⇒ NGO field officers working with communities and schools	{OS 02 (a)} NB

	<input type="checkbox"/> Commemoration	⇒ Human rights day and National Water week before the arrival of the booklet / Celebrating water week, wetlands weed, freedom day, world AIDS Day, Women's Day. ⇒ Referring to it in order to observe the special days / To celebrate important days. / Identify celebrations of special days in the school calendar ⇒ Reading activities / lessons through handout photo copied from the booklet / They are reminded in history of human rights	{QS 01 (b)} PS/ISS {QS 01 (b)} HPS / TPS / HIS {QS 01 (b)} HHS
Non - Formal Education			
<input type="checkbox"/> Schools and Colleges <input type="checkbox"/> EE Centres	<input type="checkbox"/> Commemoration of Special Days	⇒ Celebrating various holidays or special days at school assemblies / Observing some of the special days	{QS 01 (b)} EHS / HPS
	<input type="checkbox"/> Participation in Conservation	⇒ To work on the wetland in the school grounds and rehabilitate it to its original status	{QS 01 (b)} NCS

APPENDIX 4

Interview Responses (IR)

Interview Response 01; Zimbabwe (IR 01)

Interview Response 01 a - Environment Africa;

(Barnabas Mawire) 26 May 2005

I have used the calendar for special environmental days with communities that I work with. I am an extensionist forester by profession and I do a lot of extension work (with communities around Zimbabwe)

The groups of people that I work with meet periodically and come up with planning activities with neighbouring schools. They plan for environmental days for activities; like poems, to commemorate environmental special days. They ask schools for what they can contribute to the schools.

Pednor Primary School in Bindura has started a plastic recycling project where Mr. Machanzi the school environmental education coordinator facilitates the reheating of plastics, which are then moulded to make corrugated roofing sheets. This project is shared at the annual meeting of the World Environment Day with other schools and the neighbouring communities. This school has also reduced the time that the baobab tree seed takes to germinated from over 100 days to under natural conditions in the wild to just 5 days when propagated.

Tafara High School in Harare chose the theme Cry Beloved Chivero for their World Environment Day in 2004. This was in support of the clean up exercises that the school was campaigning for. River Chivero is the main supplier of domestic and industrial water in Harare.

The calendar has been translocated into school and community projects. Examples are Mpumbu village in Zvimba Ward 3, where there is a thriving farmer-to-farmer project and Chigondo Ward in Wedza district, Mashonaland East. (Wedza Environmental Action Group)

In Zimbabwe the National Tree Planting Day is held on the first Saturday of December. This is meant to coincide with the wet season, which begins in mid November. In the Binga district of the Zambezi valley

Environment Africa in Partnership with Spar Supermarket sponsored the local tree nursery. Spar supermarket sponsored the nursery and refreshments during the tree-planting day. Environment Africa is mobilising the corporate world to work with communities to commemorate special days.

Environment Africa is also taking advantage of the structures that were put in place by the Better Schools Trust (BEST) Programme in order to link community activities with schools.

The themes for Environmental Special Days come direct from the United Nations. There is a special Days committee working with the UN, which is then tasked, to contextualise the global theme for Zimbabwe.

Interview Response 01 b – A visit to Mapfuwa Village

27 May 2005

During my visit to Mapfuwa village in Rusape between the 25th and the 29th of May I was fortunate enough to interview Mrs. Prisia Mushayi who had just attended a Culture Day the week before where both the parent body and the teachers were represented. The commemoration meeting was held at Nerwande School (a central school in the district). Each village was allocated a specific topic to share Indigenous Knowledge with teachers and other communities. At this meeting Mapfuwa village was represented by Mrs. Musima who is an expert in traditional clay pots. Other topics of interest were traditional medicines and herbs.

Four schools were involved in this event; Mapfuwa School, Nrwande School, Mutendebvure School and Masvosva School. A parent body and three teachers represented each school. The event was celebrating culture days to make meaning out of culture from the perspective of the school and the community, which in this case was seen as being one.

Interview Response 01 c – Informal interviews with STTEEP

between 31 May and 02 June 2005

Special Days celebrations in the three colleges (Teacher Education)

STEEP National Coordinator: (Mrs. Iris-Jane Chimbodza) "STEEP participated in displaying at the annual World Environment Day at Mukuwisi Woodlands Environmental Education Centre in June 2003 – 2004 Expo. They are working with the Special Days Calendar."

Caleb Mandikonza and Beatrice Musindo - Mutare Teachers Training College

Commemoration of World Environment Day

- ⇒ Displays of pictures, poems and essays on environmental issues.
- ⇒ Songs and marches at commemoration points in collaboration with stakeholders with environmental interests.

World Culture Week. Display of cultural art.

- ⇒ Poems and essays
- ⇒ Cultural clothes
- ⇒ Displays of and sale of cultural; foods

Gift Bere and Iris-Jane Chombodza - Belvedere Technical teacher Training College

- ⇒ March the streets of Harare Commemorating World Aids Day. Joined other organisations in a march through the streets of Harare to mark World Aids Day

Marota Village, Mutoko. / Commemorating World Wetlands Day

- ⇒ BTTC EE club visited Marota Village in Mutoko to mark the World Wetlands Day. They were addressed by the villagers who showed how they were conserving their wetlands

Commemorating World Water Day

- ⇒ The whole college community attended a half-day workshop/ceremony organised by the EE club in conjunction with FAWEZI to commemorate World Water Day. Many activities including drama dance and song were done.

Faith Joko, Cindy Dube and Honest Ncube - Hillside Teacher Training College

- ⇒ During Lectures as reference material
- ⇒ To draw up action plans and to commemorate environmental days

Interview Response 02 - 03; South Africa
Nottingham Road Combined School (IR 02)

(Monday August 1, 2005)

Interview IR 02 (a) - The Principal

What changes have noticed since the school started working on the environmental education calendar school calendar?

- Before the programme started this school was bare soil only and there was dust everywhere. Teachers at the school decided to grow grass and it is green now. We can now use the school grounds as a playing field for the children.
- We have changed the flower gardens into vegetable gardens, which can be seen all round the school. Vegetable growing is now part of the school programme and it is also part of our eco-school focus areas.
- We used to cut the wetlands grass each time it grow tall but now we are aware that we do not have to cut the grass if we want to protect the wetland. Now we can see a lot of birds visiting and some animals have also started coming to the wetlands. There is however a problem with fire as you can see our neighbour who is a farmer burnt on his side of the property and the fire spread onto the wetland.

Have you noticed any changes in the learners since you started working with the calendar on special days?

- The learners have started to be interested in nature and now they appreciate animals. In the past they used to kill animals but now they want to protect them because they associate them with the wetland. The learners used to kill birds whenever they could and now they want to protect them
- They can learn from the environment. They can use the resources from the school environment like collecting leaves from outside for their lessons. In the past they had to bring simple things like leaves from home because there were no trees at the schools.
- The learners are now in the forefront of the all the environmental projects and our teachers are only there to guide them. This did not happen before we started working on this project. The learners are the ones who come up with ideas and suggest to the school what we could possibly do to try and alleviate the problems e.g. the problem of soil erosion in the school. The learners identified the problem and came up with various solutions like that of planting grass.

- The learning about the environment has changed them.

How are you working with partners?

- The Department of Education is supporting us in this programme.
- Louine from WESSA is giving us wonderful support. She keeps us going and she always tries to involve the principal and so she is easily acceptable because we understand the work she is doing. She is also prepared to learn from us. WESSA has also helped us to approach other NGO support
- Mr. Ndlovu the local inyanga (traditional healer) is also working with us on a tree planting project. He introduced traditional medicinal plants to us. Some of the flowers we have in the school are traditional plants, which are also medicinal. He comes often to the school and has advised teachers and learners on the treatment of simple ailment using the herbs e.g. small cuts and burns. He also comes to the school to advise on alien plants.
- The local farmer is helping us building a bridge across the wetland between the school and the oblation blocks. Learners will have to go through marshland to reach the toilets on wet summer days. They have opened a hole in the fence on the highway, which they use to get to the toilet in the wet season, if they go out of the gate and then round to get to the toilets.
- Spooornet supplies us with the trees that we are planting in the wetland area
- An organisation called Shosholoza AIDS Project has pledged to work with the school in providing fruit trees, which we can plant in the school. Shosholoza is working in the community to provide fruit trees, which will in turn provide a healthy supplementary diet.
- The Midlands Education Trust has been involved in training our teachers in organic agriculture. They are encouraging the school to grow vegetables and other plants using organic manure which is not expensive and which we can make at the school.
- The Department of Agriculture has taken soil samples from the school, which they are going to analyse so that they can advise us on which crops to grow.

What do the learners actually do?

- They are the initiators of all the projects in the school
- They also come up with the possible solution to the problems that they cite in the school. Their bridge across the wetlands is a good example of how the learners came up with a solution to their challenges.

- The learners have also written a letter to a local cement manufacturing company, PPC Cement, requesting cement bags, which they want to use for building the bridge across the wetland.
- The learners have approached the local forester who has pledged to support them with planks and logs with which to build the bridge.
- The local garage has been supplying us with empty drums, which we use as rubbish bins.

What challenges are you facing in trying to make these initiatives work?

- The school fence does not go round the school and there is no gate at the entrance of the school. This fence is not a form of security to the school. Cattle are free to roam the school grounds and they destroy our vegetable garden and other plants.
- Finance has always a big problem because we are a farm school and we do not always have funds to buy plants, manure and equipment. The MET came to our rescue and gave us equipment for agricultural activities.
- There is always litter in the school. Learners do not always remember not to litter. The local garage has been supplying us with empty drums, which we use as rubbish bins.
- There is always a problem with time to do all these things. We have to create time to do certain things. It is particularly hard to write a report on the work that we are doing because we are already busy with schoolwork. The eco-schools programme is time consuming when it comes to writing reports.
- The learners are not aware of certain environmental issues when they are at home. They only become aware of them when they come to school. Special days celebrations only become important to some learners when they come here. It is hard to make all the learners aware.

What is working well?

- The cooperation that we have in the school between teachers is fantastic. We also have excellent cooperation between the teachers and the learners. The school also has cooperation with WESSA, which has been so good, and we have been kept encouraged.
- I have worked at this school with absolute humility and we always stress that we need to be approachable to everybody in the school and also our visitors.

How do you manage a combined school?

- The school is comprised of both primary (grades one to seven) and secondary (Grades eight to twelve) school learners. There are six teachers in the primary and nine teachers in the secondary school sections. I have managed to delegate some duties in the primary school section to the Head of

Department. I have had to take over the duties for workbooks for teachers and I am always there when she needs help. I am also working in close cooperation with the Deputy. We are still short of teachers and we had to combine classes and they are now very large.

- The principal also teaches and balances this with office work, which is not easy. Many times one of the two has had to suffer. All the teachers are involved in environmental education and we have got three teachers in the forefront guiding us; Mr. Ncumalo, Ms Mkhabela and the principal.

**Interview IR 02 (b): Two staff members of the management committee
(Ms. Mkhabela and Mr. Ncumalo)**

What is a combined school?

This is a school, which combines both primary and secondary. Nottingham is a rural school as it is located in a farming area. We can say the school is a farm school.

How have you been working with the echo-schools programme?

We joined the eco-schools programme this year, 2005. We have got three focus areas, i.e. A Healthy Environment, School Calendar and School grounds and fieldwork.

How have you been working with the school special days calendar?

We are working with four environmental special days from the booklet *A Year of Special Days*,

- The Water week – we want to work on the wetland in the school grounds and rehabilitate it to its original status. The school is using borehole water, which is pumped, into a tank and it is important for the learners to understand the issues around water. A visit to St. Lucia estuary has been helpful and the learners who went there have come back greatly enriched and they are by far more motivated to initiate projects on the wetland. They have come up with the suggestion of building a bridge across the wetland which floods in summer
- The Spring Day – we hope to instil in our learners a sense of responsibility at the onset of the spring time which is a time which comes with many beautiful things like new leaves and flowers in the wild. The school will be welcoming summer and all learners participate by wearing bright colours. The

coming of a bright season which shows flowers and new leaves will complement the abhor week tree planting exercise

- Abhor week – we would like to encourage our learners to have a sense of planting more trees so that we replace those that are cleared
- World Heritage Day – we live close a very important cultural area where the paintings of the ancient people can be seen. We would like our learners to develop a sense of responsibility towards safeguarding their heritage. The school plans to visit world heritage sites, promote traditional lifestyles, preserve the San paintings, and promote various cultural activities like traditional clothing.
- The school is also working on its school garden and fieldwork where they are planting vegetable gardens, planting trees and improving the school playing grounds. These can also be linked to the environmental special days in one-way or the other.

How is the school working with policy?

- We have got a school environmental policy and each grade or class has developed their own class policy to be pinned in the class and this will remind learners on a daily basis. The school year plan also uses the policy as the special days earmarked for celebration are also included and each day is assigned a teacher in charge to coordinate the preparations towards that day.
- The teacher in charge of an environmental day is responsible for preparing for the day when it comes. All the lessons planned for that week with the focus for that special day are placed in a box and these should reflect work towards the theme of that week.

What are your challenges?

There are few of us who are working hard on the environmental learning outside the classroom. Some teachers are not willing to place their lesson plans in the box reflecting their preparation for the special day.

What is working well?

- The learners are very eager. They are prepared to go an extra mile to make their environmental learning more interesting.
- We have got support from the school management committee, which is working very well. This committee is comprised of seven members; the principal, the vice principal and two teachers on the staff side and three learners from the student body..

Interview Response 03 (IR 03): DELTA Environmental Education Centre

Ramsarup, P and Mathabathe, A. (08 July. 2005)

Background of Delta

Delta Environmental Education Centre; (Education / school visits and teacher education)

Teachers' Environmental Education Workshops are held regularly for teachers and student teachers at tertiary institutions like colleges of education and universities in the Gauteng region. It is also possible to run workshops in other regions if funds are available. The objectives of the workshops, among others, are to help teachers share good ideas and effective classroom practices and experiences for effective teaching and learning. Workshop programmes are based on a practical and investigative strategy. Teachers are usually given some "research" work to do, e.g. to identify environmental problems in their schools and the community they serve.

P. Ramsarup and A. Mathabathe:

The programme that we were working on was teacher education where we were supporting teachers with environmental education. In a programme called phase organiser, we supported teachers in integrating environmental education into the learning areas. We worked with cluster schools in the Gauteng area. A cluster is made up of 20 schools from the same district working together for 18 months, and this makes up one cycle.

We also helped schools to develop their school environment policy. A group of teachers could select an issue that they would like to work with. We encouraged them to integrate that issue with the curriculum for use in their teaching. The school environmental education policy pack from Share-Net was used for training and this pack contained the booklet 'A Year of Special Days' among other materials.

Workshops with schools were run one week before an environmental special day was due to be celebrated or commemorated. This was designed in such a way because the environment being used as a phase organiser was new and we wanted to engage learners.

In the first quarter of 1999, we held a cluster meeting with the Lenasia Cluster south of Johannesburg. In all, 18 schools attended the meeting at Lenesian Muslim School. The aim of the meeting was to introduce schools to the schools environmental education policy pack which also included a folder with the booklet 'A

Year of Special Days” During the workshop we went through the different folders in the policy pack. We also introduced the booklet ‘A Year of Special Days’ to the teachers and we explained to them how they could make use of the booklet and the calendar. A group of teachers raised the question, “Why did the book contain only Christian prayers” We were not able to adequately answer this question to their satisfaction but we unsuccessfully tried to explain to them that it was not the prayers that mattered but the environmental special days in the booklet. A large part of the teachers were Muslim and the issue soon degenerated into a big discussion around the Christian verses and the exclusion of other religious beliefs. We also highlighted to the group that the book was conceived from an assignment, which was a project put together in fulfilment of Goldfield course in 1996.

At this meeting was Ministry of Education district officials who became very worried when the discussion continued to heat up. They requested us to remove the booklet from the pack, as they were concerned that it would be misrepresented as if the Department was supporting the agenda of one religion. That is what we did; we removed the booklet from the policy pack and continued with the workshop. We never used the book again in that district. We did the same in Springs where we suspected it would not be well received because the religion of a large number of teachers was not Christian.

What was the book used for?

- We used the book in running workshops for teachers. This book was particularly useful because each workshop was held a week before a special day. The book provided a background to the special day which we were going to use as a phase organiser
- All the staff at Delta received a copy of the booklet so that they would be familiar with the environmental special days.

A. Matahathe:

“Other teachers complained that the book only contained summaries and struggled to use it for a full learning programme. This was happening in many black schools. These teachers wanted the book to give them more than just a brief.”

- Schools also used this booklet to give learners basic information on what happened on each special day, just enough information to get them started.
- Teachers also used the book to take the special days into the classroom and not just an assembly phenomenon, as was the norm with most schools.

Comments from Ramsurup and Mathabathe

As the book got more into the national space as it was used with the teachers in schools, in the national curriculum, there was a need to shift from a single religion to becoming multi faith or drop religious ties altogether (Shift One). Share-Net must have opted for the later. When the Ministry saw the value of the resource and decided to come up with their own booklet version of the booklet for the national curriculum, which they adopted, from this one. This comes from the change in the use of the booklet, this time without prayers, now that it is in the schools.

We developed a video and a file in which we use case studies where some of the ideas, which focused on special days, were articulated.

People in the EE circles in South Africa had not put any objection to the way the book was presented with the Christian verses. They were fine with the booklet as it was but when it got into the national curriculum it was now going to include everyone in the school system in the country. This would be different from EE at education centres run by NGOs like WESSA environmental education centres.

Ethics

How do we actually work with ethics / values in these circumstances?

Interview Response 04; Mauritius (IR 04)

Khemraj Sooknah (10 May 2005)

The concept of an environmental calendar did not quite work for Mauritius because most teachers were not willing to take up additional load which they believed came with the adoption of special days. Teachers in Mauritius spend most of their spare time offering extra lessons to students. This is a major source of supplementary funds, which the teachers desperately need. The academic nature of the Mauritius education system puts a lot of pressure on students and teachers.

Despite all this a poster of *Dos* and *Don'ts* was designed along the lines of the environmental education calendar of special days. A set of twelve *Dos* and *Don'ts* were developed. Learners had to choose one *Do* and one *Don't* each month and try to practice this throughout the month. From the idea of this poster a book has since been developed to support the poster and it has been distributed to teachers. An interesting development was discovered when we were cross checking the use of the poster and the supporting book. In one of the schools using the poster, the students were using the poster as a game. They tested each other on the *Dos* and the *Don'ts* and each correct response was awarded points and the player who reached 100 points first wins the game. This part of how the poster could be used was not planned at all and it is the children who came up with their own method of learning.

The teachers have very well received the poster and it has been sent to the education inspectorate for them to look at. 'Each we hold a workshop the poster is given to participating teachers.' In non-formal education it is being used as an icebreaker and as an evening exercise. It is used to overcome the shyness and open people to an environmental discussion.

The environmental calendar appeared to be too formal. The world Environmental Day and Earth Day are celebrated each year. Most of the time (what) teachers use what they hear on the radio about an important day and that is what they will teach.

There is still need for a calendar in an electronic form for children to access it from home and not to depend on teachers for environmental learning. Mauritius is becoming a cyber net island. A CD rom linked to the web sites of relevant sites like the SADC REEP.

APPENDIX 5

Interview Summaries (IS)

Interview Summary 01; South Africa Users (IS 01)

Abbreviations

Nottingham Road School	IS 01 (a) NCS
Presha Rasurup	IS 01 (b) PR
Andrew Mathabate	IS 01 (b) AM

South Africa Users NCS {S 01 (a)}

Who is using the booklet?	How are they using it?	Data Source
Teachers	<ul style="list-style-type: none"> <input type="checkbox"/> Working with learners to improve the school grounds and playing area <input type="checkbox"/> Working with learners to rehabilitate the wetland in the school 	<p>IR 02 (a)</p> <p>IR 02 (a)</p>
Learners	<ul style="list-style-type: none"> <input type="checkbox"/> They are the initiators of all the projects in the school <input type="checkbox"/> They also come up with the possible solution to the problems that they cite in the school. Their bridge across the wetlands is a good example of how the learners came up with a solution to their challenges. <input type="checkbox"/> The learners have also written a letter to a local cement manufacturing company, PPC Cement, requesting cement bags, which they want to use for building the bridge across the wetland. <input type="checkbox"/> The learners have approached the local forester who has pledged to support them with planks and logs with which to build the bridge. <input type="checkbox"/> The local garage has been supplying us with empty drums, which we use as rubbish bins 	<p>IR 02 (a)</p> <p>IR 02 (a)</p> <p>IR 02 (a)</p> <p>IR 02 (a)</p> <p>IR 02 (a)</p>
<p>Quote: Principal {IR 02 (a)} Before the programme started this school was bare soil only and there was dust everywhere. Teachers at the school decided to grow grass and it is green now. We can now use the school grounds as a playing field for the children</p>		
Community	<ul style="list-style-type: none"> <input type="checkbox"/> Mr. Ndlovu the local inyanga (traditional healer) is also working with us on a tree-planting project. He introduced traditional medicinal plants to us. Some of the flowers we have in the school are traditional plants, which are also medicinal. He comes often to the school and has advised teachers and learners on the treatment of simple ailment using the herbs e.g. small cuts and burns. He also comes 	<p>IR 02 (a)</p>

	<p>to the school to advise on alien plants</p> <ul style="list-style-type: none"> ❑ An organisation called Shosholoza AIDS Project has pledged to work with the school in providing fruit trees, which we can plant in the school. Shosholoza is working in the community to provide fruit trees, which will in turn provide a healthy supplementary diet ❑ The Midlands Education Trust has been involved in training our teachers in organic agriculture. They are encouraging the school to grow vegetables and other plants using organic manure which is not expensive and which we can make at the school 	<p>IR 02 (a)</p> <p>IR 02 (a)</p>
	<ul style="list-style-type: none"> ❑ 	
<p>Quote: Principal {IR 02 (a)}</p> <p>The learners are now in the forefront of the all the environmental projects and our teachers are only there to guide them. This did not happen before we started working on this project. The learners are the ones who come up with ideas and suggest to the school what we could possibly do to try and alleviate the problems e.g. the problem of soil erosion in the school. The learners identified the problem and came up with various solutions like that of planting grass</p>		
School Management	<ul style="list-style-type: none"> ❑ We joined the eco-schools programme this year, 2005. We have got three focus areas, i.e. A Healthy Environment, School Calendar and School grounds and fieldwork. ❑ We have got a school environmental policy and each grade or class has developed their own class policy to be pinned in the class and this will remind learners on a daily basis. The school year plan also uses the policy as the special days earmarked for celebration are also included and each day is assigned a teacher in charge to coordinate the preparations towards that day ❑ The teacher in charge of an environmental day is responsible for preparing for the day when it comes. All the lessons planned for that week with the focus for that special day are placed in a box and these should reflect work towards the theme of that week 	<p>IR 02 (b)</p> <p>IR 02 (b)</p> <p>IR 02 (b)</p>

South Africa Users PR & AM {IS 01 (b)}

Who is using the booklet?	How are they using it?	Data Source
Delta Environmental Education Centre	<ul style="list-style-type: none"> ❑ Teacher education where we were supporting teachers with environmental education ❑ We also helped schools to develop their school environment policy ❑ The school environmental education policy pack from Share-Net was used for training and this pack contained the booklet 'A Year of Special Days" among other materials. ❑ The book provided a background to the special day which we were going to use as a phase organizer ❑ All the staff at Delta received a copy of the booklet so that they would be familiar with the environmental special days. 	<p>(IR 03)</p> <p>(IR 03)</p> <p>(IR 03)</p> <p>(IR 03)</p> <p>(IR 03)</p>
<p>Quote: (IR 03) "We also helped schools to develop their school environment policy. A group of teachers could select an issue that they would like to work with. We encouraged them to integrate that issue with the curriculum for use in their teaching. The school environmental education policy pack from Share-Net was used for training and this pack contained the booklet 'A Year of Special Days" among other materials."</p>		
Schools	This was designed in such a way because the environment being used as a phase organiser was new and we wanted to engage learners.	(IR 03)
<p>Quote: (IR 03) Workshops with schools were run one week before an environmental special day was due to be celebrated or commemorated. This was designed in such a way because the environment being used as a phase organiser was new and we wanted to engage learners.</p>		
Teachers in schools	Schools also used this booklet to give learners basic information on what happened on each special day, just enough information to get them started.	(IR 03)
<p>Quote: Andrew: (IR 03) "Other teachers complained that the book only contained summaries and struggled to use it for a full learning programme. This was happening in many black schools. These teachers wanted the book to give them more than just a brief."</p>		

Interview Summary 02; Zimbabwe Users (IS 02)

Abbreviations

Barnabas Mawire IS 02 (a) BM
Prisnia Mushayi IS 02 (b) PM

Zimbabwe Users BM {IS 02 (a)}

Who is using the booklet?	How is it being used?
Environment Africa Field Officers	<ul style="list-style-type: none"> <input type="checkbox"/> For planning activities with neighbouring schools to commemorate special days / the community asks the school how they can contribute to what their children are doing <input type="checkbox"/> Planning environmental days
<p>Quote Barnabas on Mr. Machanzi: "Pednor Primary School in Bindura has started a plastic recycling project where Mr. Machanzi the school environmental education coordinator facilitates the reheating of plastics, which are then moulded to make corrugated roofing sheets. This project is shared at the annual meeting of the World Environment Day with other schools and the neighbouring communities"</p>	
Pedmore School	<input type="checkbox"/> Recycling activities to be showcased at special days celebrations esp World Environment Day
Tafara High School	<input type="checkbox"/> Preparations for the celebration of cleaning up the river Chiwero
<p>Quote Barnabas on Tafara High School: "Tafara High School in Harare chose the theme Cry Beloved Chivero for their World Environment Day in 2004. This was in support of the clean up exercises that the school was campaigning for. River Chivero is the main supplier of domestic and industrial water in Harare."</p>	
Wedza and Zvimba Communities	Environment Africa is supporting the farmer-to-farmer programme where community member share conservation techniques, which are also linked to the special days. The environmental calendar has been translated into vernacular so that farmers can use it more effectively.
Ministry of Environment	<input type="checkbox"/> National tree planting day is observed on the first Saturday of December and the calendar is used with communities to plan for tree planting celebrations
<p>Quote Barnabas on Binga Community "In Zimbabwe the National Tree Planting Day is held on the first Saturday of December. This is meant to coincide with the wet season, which begins in mid November. In the Binga district of the Zambezi valley Environment Africa in Partnership with Spar Supermarket sponsored the local tree nursery. Spar supermarket sponsored the nursery and refreshments during the tree-planting day. Environment Africa is mobilising the corporate world to work with communities to commemorate special days and the special days calendar is used for planning."</p>	

Zimbabwe Users PM {IS 02 (b)}

Who?	How?
Community: Schools and communities celebrated World Culture Day (In the special days calendar)	"Each village was allocated a specific topic to share Indigenous Knowledge with teachers and other communities. At this meeting Mapfuwa village was represented by Mrs. Musima who is an expert in traditional clay pots. Other topics of interest were traditional medicines and herbs."

Zimbabwe Users STTEEP {IS 02 (c)}

Abbreviations:

Caleb Mandikonza and Beatrice Musindo - Mutare Teachers Training College (MTTC)

Gift Bere and Iris-Jane Chombodza - Belvedere Technical Teacher Training College (BTTTC)

Faith Joko, Cindy Dube and Honest Ncube - Hillside Teacher Training College (HTTC)

Who is using the booklet?	How is it being used?	Data Source
Environmental Education Clubs	<ul style="list-style-type: none"> ❑ Commemoration of World Environment Day: Displays of pictures, poems and essays on environmental issues. / Songs and marches at commemoration points in collaboration with stakeholders with environmental interests. 	MTTC HTTC
	<ul style="list-style-type: none"> ❑ World Culture Week. Display of cultural art: Displays of and sale of cultural; foods / Poems and essays / Cultural clothes 	MTTC
	<ul style="list-style-type: none"> ❑ Commemorating World Aids Day. Joined other organisations in a march through the streets of Harare to mark World Aids Day 	BTTTC
	<ul style="list-style-type: none"> ❑ World Wetlands Day. They were addressed by the villagers who showed how they were conserving their wetlands 	BTTTC
College Lecturers	<ul style="list-style-type: none"> ❑ During Lectures as reference material ❑ To draw up action plans 	HTTC

Quote: STTEEP National Coordinator: (Mrs. Iris-Jane Chimbodza)

"STTEEP participated in displaying at the annual World Environment Day at Mukuwisi Woodlands Environmental Education Centre in June 2003 and 2004 Expo. They are working with the Special Days Calendar."

APPENDIX 6

Analytic Memo 02 (AM 02)

Analytic Memo 02 (AM 02) - from Interview Summary 01 & 02

Abbreviations of respondents (Users of the booklet)

Nottingham Road School AM 02 NCS P. Rasurup AM 02 PR A. Mathabate AM 02 AM
 Secondary Teacher Training Environmental Education Project (STTEEP) – Zimbabwe

Actual Use (In Practice) (AM 02)

Categories of Use	Sub – Categories of Use	Actual Use	Data Source
Formal Education			
<input type="checkbox"/> Schools and <input type="checkbox"/> Colleges	<input type="checkbox"/> School Administration	⇒ We have got a school environmental policy and each grade or class has developed their own class policy to be pinned in the class and this will remind learners on a daily basis. The school year plan also uses the policy as the special days earmarked for celebration are also included and each day is assigned a teacher in charge to coordinate the preparations towards that day	{ IS 01 (a) } NCS
		⇒ We also helped schools to develop their school environment policy	{ IS 01 (b) } PR & AM
	<input type="checkbox"/> Community Outreach	⇒ Each village was allocated a specific topic to share Indigenous Knowledge with teachers and other communities	{ IS 02 (a) } BM
	<input type="checkbox"/> Teaching and Learning	⇒ Working with learners to improve the school grounds and playing area	{ S 01 (a) } NCS
⇒ The teacher in charge of an environmental day is responsible for preparing for the day when it comes. All the lessons planned for that week with the focus for that special day are placed in a box and these should reflect work towards the theme of that week		{ IS 01 (a) } NCS	
⇒ Teacher education where we were supporting teachers with environmental education		{ IS 01 (b) } PR & AM	
⇒ The book provided a background to the special day which we were going to use as a phase organizer		{ IS 01 (b) } PR & AM	
⇒ Schools also used this booklet to give learners basic information on what happened on each special day, just enough information to get them started		{ IS 01 (b) } PR & AM	
⇒ During Lectures as reference material	{ IS 02 (c) } STTEEP		
<input type="checkbox"/> Whole School Development	⇒ The Midlands Education Trust has been involved in training our teachers in organic agriculture. They are encouraging the school to grow vegetables and other plants using organic manure which is not expensive and which we can make at the school	{ IS 01 (a) } NCS	

	<input type="checkbox"/> Participation in Conservation	<p>⇒ Working with learners to rehabilitate the wetland in the school</p> <p>⇒ The learners have also written a letter to a local cement manufacturing company, PPC Cement, requesting cement bags, which they want to use for building the bridge across the wetland.</p> <p>⇒ The learners have approached the local forester who has pledged to support them with planks and logs with which to build the bridge.</p> <p>⇒ The local garage has been supplying us with empty drums, which we use as rubbish bins</p> <p>⇒ Recycling activities to be showcased at special days celebrations esp. World Environment Day</p> <p>⇒ To draw up action plans</p>	<p>{IS 01 (a)} NCS</p> <p>{IS 01 (a)} NCS</p> <p>{IS 01 (a)} NCS</p> <p>{IS 01 (a)} NCS</p> <p>{IS 02 (a)} BM</p> <p>{IS 02 (c)} STTEEP</p>
Non - Formal Education			
<input type="checkbox"/> Schools and Colleges <input type="checkbox"/> EE Centres	<input type="checkbox"/> School Community Outreach	<p>⇒ Mr. Ndlovu the local inyanga (traditional healer) is also working with us on a tree-planting project. He introduced traditional medicinal plants to us. Some of the flowers we have in the school are traditional plants, which are also medicinal. He comes often to the school and has advised teachers and learners on the treatment of simple ailment using the herbs e.g. small cuts and burns. He also comes to the school to advise on alien plants</p> <p>⇒ An organisation called Shosholoza AIDS Project has pledged to work with the school in providing fruit trees, which we can plant in the school. Shosholoza is working in the community to provide fruit trees, which will in turn provide a healthy supplementary diet</p>	<p>{IS 01 (a)} NCS</p> <p>{IS 01 (a)} NCS</p>
	<input type="checkbox"/> Commemoration of Special Days	<p>⇒ For planning activities with neighbouring schools to commemorate special days / the community asks the school how they can contribute to what their children are doing</p> <p>⇒ Commemoration of World Environment Day and others</p>	<p>{IS 02 (a)} BM</p> <p>{IS 02 (c)} STTEEP</p>
	<input type="checkbox"/> Participation in Conservation	<p>⇒ Environment Africa is supporting the farmer-to-farmer programme where community member share conservation techniques, which are also linked to the special days. The environmental calendar has been translated into vernacular so that farmers can use it more effectively.</p>	<p>{IS 02 (a)} BM</p>
Informal Formal Education			
<input type="checkbox"/> Government Ministries <input type="checkbox"/> NGOs	<input type="checkbox"/> National Commemorations	<p>⇒ National tree planting day is observed on the first Saturday of December and the calendar is used with communities to plan for tree planting celebrations</p>	<p>{IS 02 (a)} BM</p>
	<input type="checkbox"/> Information and Awareness	<p>⇒ All the staff at Delta received a copy of the booklet so that they would be familiar with the environmental special days.</p>	<p>{IS 01 (b)} PR & AM</p>

APPENDIX 7

Workshop Responses (WR)

Workshop Response 01; EEASA Workshop in Lusaka – Zambia (WR 01)

Workshop at the Environmental Education Association of Southern Africa Conference

Eight participants attended the workshop from three countries, Namibia, Zambia and Zimbabwe. Participant's responses were numbered from 01 to 08 and the table below is a record of their responses and the corresponding data source.

How is the booklet or calendar being used in Zambia?

Who are the Lead Users?	How is it being used?	Data Source
Basic and High Schools	<input type="checkbox"/> Emphasising the need to be aware of environmental issues on National Day	02
	<input type="checkbox"/> Planning and participation in World Waster Day, World Tourism	03
	<input type="checkbox"/> World environment Day competition and programme	
	<input type="checkbox"/> Cleaning Livingston City and sensitisation on the importance of EE	04
	<input type="checkbox"/> Cleaning the school surrounding on the environment day	06
	<input type="checkbox"/> World Day for Water (activities for celebrating the day and week)	07
Communities and Churches	<input type="checkbox"/> On National Days had communities engaged in protecting environment discussion	02 03
	<input type="checkbox"/> Meetings on Human Rights Day	04
	<input type="checkbox"/> Sensitising of people on the importance of environmental education	
Ministry of Education	<input type="checkbox"/> Planning for Water Day	03

Tourism Centre	<input type="checkbox"/> Planning for World Tourism Day	03
Youth Groups	<input type="checkbox"/> Clean of Lusaka City and sensitising on the importance of environmental education <input type="checkbox"/> Cleaning of Mongu Town and sensitising on the importance of EE	04
Wildlife Environment Society of Zambia	<input type="checkbox"/> Collaborating with other EE related organisations to deliver structured programmes for these special Days	05
Environmental Education Centres	<input type="checkbox"/> Using themes of special Days and offering practicals and discovery learning in an outside setting to reinforce themes	05
Primary Colleges for Teachers	<input type="checkbox"/> Activities around National and World Environmental Day / Planning activities for learners	07

Workshop Response 02; Curriculum Development Unit (CDU), Harare – Zimbabwe (WR 02)

Abbreviations

Johanne Gandiwa	WR 02 JG
Richard Mutsi	WR 02 RM
Barnabas Mawire	WR 02 BM
Samuel Whande	WR 02 SW

Who is Using the booklet?	How is it being used?
Ministry of Environment and Tourism; Department of Natural Resources (Johanne Gandiwa)	
Pupils and Teachers	<input type="checkbox"/> As a reference book
Communities	<input type="checkbox"/> Planning purposes
Industrialists	<input type="checkbox"/> Can use the book as a planning tool for certain environment days
Ministry of Environment and Tourism (Department of Natural Resources)	<input type="checkbox"/> For planning purposes <input type="checkbox"/> Planning for World Environment Day, World Wetlands Day, etc <input type="checkbox"/> To orient staff especially new officers and researchers

Mukuwisi Environmental Education Centre (Richard Mutsi)	
Schools	<ul style="list-style-type: none"> ❑ School planned to commemorate the World Environment Day. Exhibitions (were) held by schools and various organisations at the Environment Centre
Mukuwisi Environment Centre	<ul style="list-style-type: none"> ❑ Planning the commemoration of Wetlands Day. Communities and schools were also involved in the commemoration of the day. Communities around Marlborough vlel were involved
Communities; Youths	<ul style="list-style-type: none"> ❑ Planning and hosting National Tree Planting Day in the area. Trees were planted to commemorate the day by youths in the Epworth area ❑ Be aware and be able to come up with specific interventions to problems through observing the days
Industry	Corporate sector to plan and implement activities that really focus on specific activities e.g. pollution control
Schools and Colleges Permaculture (SCOPE) Programme (Samuel Whande)	
SCOPE	<ul style="list-style-type: none"> ❑ Organisational planning ❑ For coming up with (feeding into) our annual calendar of events as we observe most of the events/commemorations ❑ As a source of information e.g. for filler information to in-house newsletter
Schools	<ul style="list-style-type: none"> ❑ AS sources of information for thematic issues e.g. biodiversity, ecological balance, eco-tourism, food security, health and HIV/AIDS and reminders for emphasis ❑ At the occasion of specific events e.g. Mukuwisi, Wetlands Day, Biodiversity etc.
General Community	<ul style="list-style-type: none"> ❑ We thrust on the aspect of permaculture as a tool to EE and in the process draw the attention interest of visitors to our stand. This is then a chance to dialogue on the various aspects ❑ Visitors to our stands at Mukuwisi; Zimbabwe International Book Fare Bulawayo, Gweru and Harare ❑

Environment Africa (Barnabas Mawire)	
Schools and Colleges Ata school level with 24 schools in	<ul style="list-style-type: none"> ❑ In teaching environmental science and environmental education ❑ In Quiz shows ❑ In competitions such as Enviro-Action schools competitions, National schools and Colleges Tree growing and care programmes ❑ Planning of commemoration of environmental and other important days
Community Environmental Action Groups Women Groups Youth Groups	<ul style="list-style-type: none"> ❑ As a planning tool for holding field days and commemorations ❑ As a reference for making decisions on environmental management at local level ❑ As a tool for coming up with projects that address problems
Environment Africa	<ul style="list-style-type: none"> ❑ In planning our activities as a guide ❑ It is a reference material – even for staff orientation and development ❑ We normally translate it into vernacular for use by communities

Zimbabwe

Schools in Harare	<ul style="list-style-type: none"> ❑ School visits to Mukuvisi Woodlands to commemorate environmental days organised by Wildlife and Environment Zimbabwe ❑ Competitions; poems, environmental quizzes and drama on special days 	01 / 08
Ministry of Environment and Tourism	<ul style="list-style-type: none"> ❑ The booklet is used for coordinating commemorating days ❑ Action Magazine is developing a brochure on behalf of the Ministry to commemorate the World Environment Day and it is using the booklet to highlight themes and coordinate campaigns. This year it will be held in Mutare 	01 08
Department of Natural Resources	<ul style="list-style-type: none"> ❑ The booklet was used for planning the farmer's calendar produced by the Department of Natural Resources 	01
Environment Africa	<ul style="list-style-type: none"> ❑ Advocacy especially pollution, and clean up campaigns 	08

APPENDIX 8

Workshop Summaries (WS)

Workshop Summary 01; (WS 01) from workshop responses 01 & 02

Abbreviations

Workshop data numbered from 01 to 08 is sourced from the workshop at the EEASA Conference in Lusaka.

Workshop Summary 01 a EEASA Conference {WS 01 (a)}

Who is using the book?		
Data Category	Who is using it?	Data Source
Formal Education: Administration and Planning	<input type="checkbox"/> Ministry of Education <input type="checkbox"/> Ministry of Environment and Tourism <input type="checkbox"/> Tourism Centre <input type="checkbox"/> Action magazine is using the booklet to highlight themes and coordinating campaigns <input type="checkbox"/> The booklet was used for planning the farmers' calendar	(WR 01) 03 (WR 01) 01 (WR 01) 03 (WR 01) 01 (WR 01) 08
Formal Education: Teaching and Learning	<input type="checkbox"/> Basic and High Schools / Schools in Harare <input type="checkbox"/> Primary Colleges <input type="checkbox"/> Environmental Education Centres	(WR 01) 01 / 02 / 03 / 04 / 06 / 07/ (WR 01) 07 (WR 01) 05
Informal Education: Commemoration, Action and Participation	<input type="checkbox"/> Youth Groups <input type="checkbox"/> Wildlife and Environment, Zambia	(WR 01) 04
Informal Education: Community Work	<input type="checkbox"/> Communities and Churches	(WR 01) 02 / 03 / 04
Informal Education: Religious Education	<input type="checkbox"/> Churches	(WR 01) 02 / 03 / 04

How is it being used?		
Data Category	How is it being used?	Data Sources
Formal Education: Administration and Planning	<input type="checkbox"/> On National Days had communities engaged in protecting environmental discussion <input type="checkbox"/> Planning for World Tourism Day / Planning for World Water Day	(WR 01) 02 (WR 01) 03
Informal Education: Providing Information and Raising Awareness	<input type="checkbox"/> Sensitising people on the importance of environmental education <input type="checkbox"/> School visits to Mukuwisi Environmental Education Centre	(WR 01) 04 (WR 01) 01
Formal Education:	<input type="checkbox"/> Using themes of special days and offering practicals	(WR 01) 05

Teaching and Learning	and discovery learning in an outside setting to reinforce themes <input type="checkbox"/> Planning activities for learners	(WR 01) 07
Informal Education: Commemoration, Action and Participation	<input type="checkbox"/> Celebrating World Environmental Day, participation in World special days, World Environment day competitions, cleaning the school surrounding & activities for celebrating world days <input type="checkbox"/> Cleaning Lusaka / Cleaning Mongu town <input type="checkbox"/> Department of Natural resources <input type="checkbox"/> Environment Africa <input type="checkbox"/> Competitions; poems, environmental quizzes and drama on special days <input type="checkbox"/> Environment Africa uses the book for advocacy on pollution and clean up campaigns <input type="checkbox"/> The book is used for coordinating commemoration days	(WR 01) 02 / 03 / 04 / 06 / 07 (WR 01) 04 (WR 01) 01 (WR 01) 01 (WR 01) 01 (WR 01) 08 (WR 01) 01
My Comments:		

Workshop Summary 01 b; Harare - Zimbabwe {WS 01 (b)}

Abbreviations

Barnabas Mawire	AM 03 (b) BM
Johanne Gandiwa	AM 03 (b) IG
Richard Mutsi	AM 03 (b) RM
Samuel Whande	AM 03 (b) SW

Who is using the booklet in Zimbabwe?		
Data Category	Who is using the book?	Data Sources
Formal Education: Administration and planning	<input type="checkbox"/> Ministry of Environment and Tourism <input type="checkbox"/> Industry	(WR 02) JG (WR 02) JG / RM
Formal Education: Providing Information and Raising Awareness	<input type="checkbox"/> Mukuwisi Environmental Education Centre	(WR 02) RM
Formal Education: Teaching and Learning	<input type="checkbox"/> Pupils and teachers <input type="checkbox"/> Schools <input type="checkbox"/> SCOPE <input type="checkbox"/> Schools and colleges	(WR 02) JG (WR 02) RM / SW (WR 02) SW (WR 02) BM
Informal Education: Commemoration, Action and Participation	<input type="checkbox"/> Environment Africa	(WR 02) BM
Informal Education: Community Work	<input type="checkbox"/> Communities <input type="checkbox"/> Youth groups	(WR 02) JG / RM / SW / BM (WR 02) BM

How is it being used?		
Data Category	How?	Data Sources
Formal Education: Administration and planning	<ul style="list-style-type: none"> ❑ Planning purposes / planning commemorations ❑ To orient staff especially new officers and researchers ❑ The corporate sector plan and implement activities focusing on specific areas e.g. pollution ❑ Organisational Planning ❑ For coming up with an annual calendar of events at SCOPE ❑ Planning tool for holding field days ❑ As a reference for making decisions on environmental management 	(WR 02) JG / BM (WR 02) JG / BM (WR 02) RM (WR 02) SW (WR 02) SW (WR 02) BM (WR 02) BM
Formal Education: Teaching and Learning	<ul style="list-style-type: none"> ❑ As a reference book by teachers ❑ As a source of information for thematic issues e.g. biodiversity and ecology ❑ Teaching environmental science and environmental education 	(WR 02) JG (WR 02) SW (WR 02) BM
Informal Education: Commemoration, Action and Participation	<ul style="list-style-type: none"> ❑ Schools plan to commemorate World environment Day ❑ Schools plan exhibitions ❑ Commemorating wetlands day with communities and schools ❑ In quiz shows / competitions such as Enviro-Action schools competitions / National schools and colleges tree growing and care programmes 	(WR 02) RM / SW (WR 02) RM (WR 02) RM (WR 02) BM
Informal Education: Community Work	<ul style="list-style-type: none"> ❑ Commemorating wetlands day with communities and schools ❑ Commemoration with the youth ❑ We have translated it for use by the communities 	(WR 02) RM (WR 02) RM (WR 02) BM

APPENDIX 9

Analytic Memo 03 (AM 03)

Analytic Memo 03 (AM 03) from Workshop Summary 01

Abbreviations of respondents (Use of the booklet)

Workshop data numbered from 01 to 08 is sourced from the workshop at the EEASA Conference in Lusaka. This was combined with the Harare workshop with the following abbreviations:

Barnabas Mawire	AM 03 (b) BM	Johanne Gandiwa	AM 03 (b) IG
Richard Mutsi	AM 03 (b) RM	Samuel Whande	AM 03 (b) SW

Actual Use (In Practice)

AM 03

Categories of Use	Sub – Categories of Use	Actual Use	Data Source
Formal Education			
<input type="checkbox"/> Schools and <input type="checkbox"/> Colleges	<input type="checkbox"/> School Administration	⇒ The book is used for coordinating commemoration days ⇒ Planning purposes / planning commemorations ⇒ Schools plan to commemorate World environment Day	{WS 01 (a)} 01 {WS 01 (b)} JG / BM {WS 01 (b)} RM / SW
	<input type="checkbox"/> Teaching and Learning	⇒ Using themes of special days and offering practicals and discovery learning in an outside setting to reinforce themes ⇒ Planning activities for learners ⇒ As a reference book by teachers ⇒ As a source of information for thematic issues e.g. biodiversity and ecology ⇒ Teaching environmental science and environmental education	{WS 01 (a)} 05 {WS 01 (a)} 07 {WS 01 (b)} JG {WS 01 (b)} SW {WS 01 (b)} BM
	<input type="checkbox"/> Whole School Development	⇒	
	<input type="checkbox"/> Participation in Conservation	⇒ School visits to Mukuwisi Environmental Education Centre ⇒ Competitions; poems, environmental quizzes and drama on special days	{WS 01 (a)} 01 {WS 01 (a)} 01
	Non - Formal Education		

	<ul style="list-style-type: none"> □ Administration and Planning 	<ul style="list-style-type: none"> ⇒ For coming up with an annual calendar of events at SCOPE ⇒ As a reference for making decisions on environmental management 	{WS 01 (b)} SW {WS 01 (b)} BM
<ul style="list-style-type: none"> □ Schools and Colleges □ EE Centres 	<ul style="list-style-type: none"> □ School Community Outreach 	<ul style="list-style-type: none"> ⇒ 	
	<ul style="list-style-type: none"> □ Commemoration of Special Days 	<ul style="list-style-type: none"> ⇒ Celebrating World Environmental Day, participation in World special days, World Environment day competitions, cleaning the school surrounding & activities for celebrating world days ⇒ Commemorating wetlands day with communities and schools 	{WS 01 (a)} 02 / 03 / 04 / 06 / 07 {WS 01 (b)} RM
	<ul style="list-style-type: none"> □ Information and Awareness 	<ul style="list-style-type: none"> ⇒ Action magazine is using the booklet to highlight themes and coordinating campaigns ⇒ Sensitising people on the importance of environmental education ⇒ To orient staff especially new officers and researchers ⇒ In quiz shows / competitions such as Enviro-Action schools competitions / National schools and colleges tree growing and care programmes 	{WS 01 (a)} 01 {WS 01 (a)} 04 {WS 01 (b)} JG / BM {WS 01 (b)} BM
	<ul style="list-style-type: none"> □ Participation in Conservation 	<ul style="list-style-type: none"> ⇒ Cleaning Lusaka / Cleaning Mongu town ⇒ The corporate sector plan and implement activities focusing on specific areas e.g. pollution 	{WS 01 (a)} 04 {WS 01 (b)} RM
Informal Formal Education			
<ul style="list-style-type: none"> □ Government Ministries □ NGOs 	<ul style="list-style-type: none"> □ International Commemorations 	<ul style="list-style-type: none"> ⇒ Planning for World Tourism Day / Planning for World Water Day 	{WS 01 (a)} 03
	<ul style="list-style-type: none"> □ National Commemorations 	<ul style="list-style-type: none"> ⇒ On National Days had communities engaged in protecting environmental discussion 	{WS 01 (a)} 02
	<ul style="list-style-type: none"> □ Advocacy and Lobbying 	<ul style="list-style-type: none"> ⇒ Environment Africa uses the book for advocacy on pollution and clean up campaigns 	{WS 01 (a)} 08
	<ul style="list-style-type: none"> □ Information and Awareness 	<ul style="list-style-type: none"> ⇒ The booklet was used for planning the farmers' calendar 	{WS 01 (a)} 08

APPENDIX 10

Electronic Mail Circulation

From: [Kim Ward](#)
To: [Shepherd](#)
Sent: Thursday, August 11, 2005 11:02 AM
Subject: Fw: National Women's Day - 09 August

Dear Shepherd,
are you exploring other users of the book... I am forwarding a message from Fiona (see below) at WWF to share how she uses the YSD booklet... I know journalists have also found it useful.

Kind regards,
Kim

----- Original Message -----

From: [Kahn, Fiona](#)
To: [Amanda de Bruyn](#) ; [Avril Wilkinson](#) ; [Bridget Ringdahl](#) ; [Bronwyn Egan](#) ; [Cathy Dzerefos](#) ; [Cheryl Gibson-Dicks](#) ; [Clare Peddie](#) ; [Daniel Marnewick](#) ; [December Mathenjwa](#) ; [Di Beeton \(E-mail\)](#) ; [Eddie Leukes](#) ; [Fatima Cachalia](#) ; [Ingrid Timmermans \(E-mail\)](#) ; [Janis O'Grady](#) ; [Joe Peu](#) ; [Jonathon Wigley](#) ; [Kenneth Collins](#) ; [Kim Ward \(E-mail\)](#) ; [Kirsten Fourie](#) ; [Laura Conde-Aller \(E-mail\)](#) ; [Leigh Brown](#) ; [Mary Murphy](#) ; [Mary Pieters](#) ; [Michelle Preen](#) ; [Nomthunzi Siyangwana](#) ; [Patrick Kwelepeteta](#) ; [Philip Ivey](#) ; [Phillip Wilkinson](#) ; [Priya Vallabh](#) ; [Pumla Koltane](#) ; [Rhian Berning](#) ; [Richard Bolus \(E-mail\)](#) ; [Rob Small](#) ; [Samantha Terblanche](#) ; [Sharon Pollard](#) ; [Sue Bellinger](#) ; [Thandi O'Hagan](#) ; [Vicky Ahlmann](#) ; [Xoliswa Fuyani](#)
Sent: Friday, August 05, 2005 2:14 PM
Subject: National Women's Day - 09 August

NATIONAL WOMEN'S DAY ~ 09 AUGUST

On 09 August 1956 approximately 20 000 women, from all walks of life, participated in a march outside the Union Buildings in Pretoria. It was probably the single most famous protest by women to have taken place in the history of South Africa. The Union Building site was chosen because of its historical significance in the development of the apartheid struggle.

Women were opposing the law which forced the Black population to carry a pass (or document) with them at all times to permit them entering a 'white area'. "You strike the women, you strike the rock", was chanted during the protest and this gave strength to South African women who suffered from exploitation and discrimination during the apartheid era.

Programmes such as Women's Responses to HIV/AIDS, Violence against Women and the Development of Indicators for the Economic Empowerment of Women, have been established as a result of this march and the determination of women countrywide.

On National Women's Day 2000, the Women's Monument at the Union Buildings was unveiled to recognize women's contribution towards gender equity and human rights for all. In many parts of South Africa, women still bear the brunt of extreme poverty, abuse, over-exploitation,

oppression and great suffering, yet they are still the “rock” upon which family life and our society depends.

On National Women’s Day all women are affirmed, their courage and sacrifices over the ages acknowledged and their aspirations and achievements applauded.

? Name the women who have played a significant role in the history of South Africa?



National Council of Women of South Africa, PO Box 72499, Parkview, 2122
Tel/Fax: (011) 447 4407
E-mail: ncwsa@cybertrade.co.za

- Commission on Gender Equality (CGE), 10th Floor Braamfontein Centre
23 Jorissen Street, Braamfontein, 2017
Tel: (011) 403 7182
E-mail: cginfo@cge.org.za

WWW www.un.org/depts/dhl/population/