Community radio and museum outreach: a case study of community radio practices to inform the environment and sustainability programmes of Livingstone Museum.

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By

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ABSTRACT

This is a qualitative study whose purpose was to investigate the community radio education practices and the museum outreach education activities with a view to understanding how a museum-radio partnership may be used to engage the Livingstone community in environment and sustainability learning. Environment and sustainability issues require a community approach in order to bring about sustained responses to environmental challenges. As such, the study worked with social learning ideas of engaging the community in environment and sustainability learning.

The data was generated mainly from face-to-face semi-structured interviews involving three community radio stations, Radio Listener Clubs and museum experts. The data generated was then presented to a strategy workshop involving the Livingstone Museum and Radio Musi-o-tunya staff. Arising from this workshop, recommendations were made about the possibility of the museum working in partnership with the radio to engage the community in environmental education.

The study has shown that much of the museum environmental education activities have been confined to exhibitions and lectures within the museum building, which has affected the number of people being serviced by the museum. These education activities are arranged such that museum expert-led knowledge is presented to the audience with minimal community engagement on the environmental learning content.

The study has also shown that community radio programming provides opportunities for community-led social learning which the Livingstone Museum could make use of to engage the community in environmental learning. Community radio programming allows community participation through Radio Listener Clubs, in identification and presentation of local environmental issues. This makes it a suitable tool to address locally relevant environmental issues, by the local community.

Environmental issues are different from one place to another. Therefore environmental education approaches that bring issues into the museum may fail to address the different environmental education issues in different community context.

The study concludes by recommending that Livingstone Museum should explore the use of community radio so that their expert knowledge and that of the radio producers could be used to shape environmental education programmes to go beyond awareness-raising.

ACKNOWLEDGEMENTS

CONTENTS

CHAPTER 1

INTRODUCION TO THE STUDY

1.1 INTRODUCTION

This chapter introduces this research on community radio practices and museum outreach activities. It starts by describing the geographical location of the study sites and then highlights the overall context of the study and study sites. In addition it explains the research focus, the research questions and objectives. I also provide an outline of my role in some of the institutions involved in the study, and what influenced the idea to undertake the study. To conclude the chapter I provide a brief overview of the rest of the chapters in this document.

1.2 LOCATION OF STUDY SITES

This study essentially looks at one 'site' in Livingstone as the focus of the case study. It is, however, organised in such a way that the phenomenon under study is looked at from the basis of a collection of cases (collective case study) (Stake, 2000). The Livingstone Museum and Radio Musi-o-tunya are both located in Livingstone City, near the Victoria Falls in southern Zambia. Chikuni Community radio is located about three hundred kilometres north-east of Livingstone, in the rural part of Monze district. The third site, Dzimwe Community Radio, is located in Monkey Bay, within the Nankumba peninsula, Mangochi district in Malawi.

Within Livingstone, there is a community radio station, Radio Musi-o-tunya, that has been involved in community education through programmes mainly focusing on orphans and vulnerable children and HIV and AIDS, using an approach called Interactive Radio Instruction (IRI). This radio station has had radio programmes with the museum which were focused on awareness-raising with regard to the operations of the Livingstone Museum. It is through this programme that I felt radio could probably offer more opportunities than just awareness of museum activities. The desire through this study was to understand how the Livingstone Museum could use radio to engage the community in outreach programmes on environment and sustainability concerns.
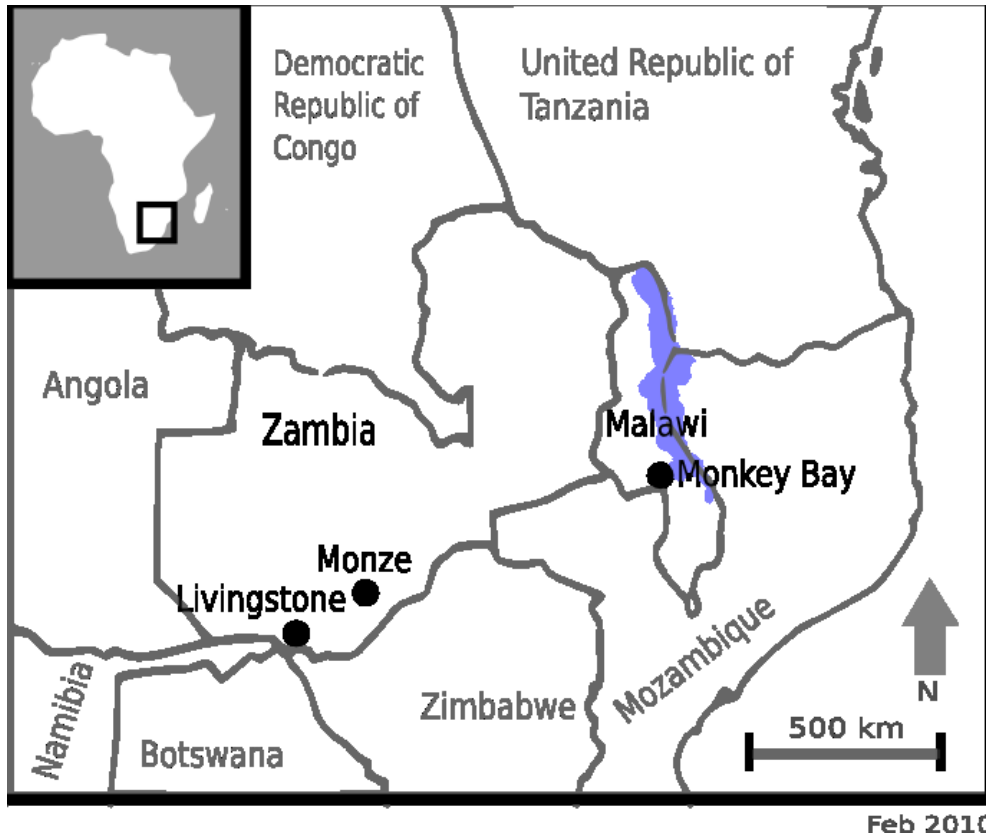
Figure 1: Map showing location of study sites in Monkey Bay, Monze & Livingstone.

The Livingstone Museum has an Education Department whose main job is to coordinate the education programmes in the museum. One of the education programmes is the outreach programme where the museum is supposed to reach out to the community in their localities. Over time, this programme has faced many challenges that have reduced the activities of the outreach programmes. This situation calls for new and innovative ways of engaging the community in museum education.

1.3   INTRODUCTION TO LIVINGSTONE MUSEUM

The Livingstone Museum is based in Livingstone City in southern Zambia. It is the oldest museum in Zambia and currently has the largest Ethnographic, Historical and Natural History collections (Livingstone Museum, 1994). The museum was established in the early 1930s as a repository for ethnographic collections, under the instruction of the colonial government (The Rhodes-Livingstone Museum, 1951). Over time, the

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Livingstone Museum has changed character to include other types of collections in addition to ethnographic materials. It is currently designated as a Natural History museum. Apart from natural history collections, it has other collections.

The Livingstone Museum has two main departments – the Natural History and Humanities departments. Each of these departments has several sections focusing on specific areas of study. For instance, under the Humanities department there are the History, Archaeology and Ethnography sections. In the Natural History department there are sections such as Mammalogy, Herpetology, Botany, Ornithology, Ichthyology and Entomology. Each of these research sections works in conjunction with the Education Department to mount exhibitions in the museum and carry out other educational activities to bring about community learning.

Among its roles, the museum collects materials which are then studied, and the resulting information is disseminated to the community and other users. The main method of information dissemination in museums is through display of artifacts and associated information, mainly in permanent exhibitions within the museum building. In some cases temporary exhibitions as well as portable show cases are used in the museum's education programmes.

The Education Department oversees all education activities and strives to engage the community in museum education both within and outside the museum. One of the key initiatives to try and capture community members who may not find time to visit the museum has been through what is referred to as the 'outreach programme'. Under this programme the museum goes to the community with educational materials to engage the community in their localities. This method has been quite effective but over time, it has proved to be very expensive. I work as a Curator in this programme. It is the desire to revive the Livingstone Museum outreach activities that led to this study.

1.4   THE HISTORY AND CONTEXT OF RADIO MUSI-O-TUNYA

The data generation process at Radio Musi-o-tunya started with a focus on trying to understand why the radio station was set up. This was done to obtain an understanding of

the purpose of the radio station from those that are working at the radio station. Through this process I was able to understand the focus of the radio station and identify the possibility of the Livingstone Museum working with the radio station in its outreach programmes (see Sections 4.3.7 and 5.4).

Radio Musi-o-tunya is one of the radio stations established by the Catholic Church in Zambia. The development of community radio stations followed a long history of restriction of broadcasting by the government of the Republic of Zambia. Prior to 1990 only national radio was allowed to operate, but it had limited coverage with a lot of the rural community not receiving either television or radio signals. As a result it was very difficult for community members to fully participate in the national radio and television programming.

Radio Musi-o-tunya was established in 2004 by the Catholic Diocese of Livingstone with the purpose of "evangelization and bringing about community development" (Syasipa, C., pers. comm., September 26, 2009). Similarly the Radio Station Director explained that Radio Musi-o-tunya "was meant to develop especially the poor; not only development but sustainable development whereby you don't just look at the present you also look at the future (Sililo, N.I., pers. comm., September 28, 2009). Radio Musi-o-tunya is a community radio station broadcasting in Livingstone City, in Zambia and the surrounding areas on a frequency of 106.1 FM. It broadcasts up to an average radius of 80km from Livingstone, mainly to the rural community. This broadcast covers some parts of Zimbabwe and Botswana, and a total of three districts within Zambia– Livingstone, Kalomo and Kazungula. It has more than 125 listener clubs, mostly in the rural community around Livingstone city. These listener groups were "each provided with a 'wind-up' radio to improve community access to radio services" (Muloongo, 2009, p. 2).

Radio Musi-o-tunya broadcasts 18hrs every day, from 06 hours (morning) to 24 hours (midnight). Due to the cosmopolitan nature of its catchment area, Radio Musi-o-tunya broadcasts in three main languages – English, Silozi and Chitonga. Most of the people in the catchment area speak at least one of these broadcast languages. While the radio is owned by the Catholic Church, it remains accessible to all other faiths or denominations

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within its catchment area. In addition, the radio has allowed the community to contribute to its programming in any other language they feel comfortable with, as long as some people will understand what is being communicated. This has been extremely important because Zambia has seven main languages broadcast through national radio, and over 73 tribal groups speaking various languages and dialects.

The programming at Radio Musi-o-tunya focuses on community development. The radio operates mainly with community volunteers who have been trained by the radio station and its partners, and are offering services without being paid by the radio station. This has been the strength of the radio station, and has significantly reduced the cost of running the radio activities. Some of the programmes undertaken by the radio station focus on health issues such as HIV and AIDS, good governance (civic education), orphans and vulnerable children, as well as general community education.

1.5   INTRODUCTION TO DZIMWE COMMUNITY RADIO STATION.

Dzimwe Community Radio is located in Monkey Bay in Mangochi district in Malawi. It is located within the Nankumba peninsula in the Lake Malawi National Park. Dzimwe Community Radio station was established by UNESCO in 1998 with the purpose of promoting the conservation of natural resources in the Lake Malawi National Park. UNESCO worked with Malawi Media Women Association (MAMWA) to establish the radio station. Over time, the radio has changed leadership, and currently it is totally owned by the community, and managed by a board of trustees selected from community members.

The radio station broadcasts on 93.1 FM and covers an average radius of about 65km around Monkey Bay. Dzimwe Community Radio broadcasts solely in Chichewa, a local language widely spoken in Malawi, some parts of Mozambique and Eastern Zambia. The use of a local language has encouraged community participation in the radio's programmes. The participation is further enhanced by the existence of what are called Radio Listener Clubs (Manyozo, 2005; Mchakulu, 2007). The Radio Listener Clubs are involved in radio programme production as well as provision of feedback to the radio

station. Some of the major programmes on Dzimwe Community Radio focus on environmental conservation, girls' education and general community development.

As explained above, the idea behind the establishment of Dzimwe Community Radio was to promote the conservation of the Lake Malawi National Park. I became interested in studying radio practices at Dzimwe Community Radio because of its conservation programmes, and that it has working structures linking the radio with the community. I also needed to look at an international perspective to community radio practice, and Dzimwe was a reasonable choice because it could be reached easily.

1.6 INTRODUCTION TO CHIKUNI COMMUNITY RADIO

Chikuni Community Radio is located in southern Zambia in the rural part of Monze District among the Batonga people. The radio was founded in the year 2000 (Juutinen, 2008) by Chikuni Parish of the Catholic Church, and broadcasts mainly in Chitonga (a local language) and English, from Chikuni Parish on 91.8FM. As such its focus is the audience within Chikuni Parish, covering an average distance of about 60km, with an estimated reach of 250, 000 people (lower estimate) (Chikuni Radio, 2009).

While the radio is operated by the church, it is open to the public and its programming covers a wide range of issues such as agriculture, education, governance, nutrition and culture (Chikuni Radio, 2009).

I chose to work with Chikuni Community Radio because it is one of the oldest community radio stations in Zambia, and has had programmes focusing on environmental conservation, which was the area of interest in the study. Additionally I needed to understand broadcasting practices in a typically rural setup, and Chikuni provided that opportunity.

Chikuni Community Radio operates through structures such as church centres, Radio Listener Clubs, and traditional leadership structures. These became structures of interest in my study as I sought to understand how community engagement through radio programming is undertaken (see Chapter 4.2).

1.7   THE RESEARCH FOCUS

This research explores education practices at the Livingstone Museum and the community radio practices at Radio Musi-o-tunya in Livingstone, Zambia, with the view to understanding how a museum-radio partnership might be used to engage the Livingstone community in addressing environment and sustainability issues. It focused on studying community radio practices in three community radio stations to understand how educational programming is undertaken. While the focus was on the relationship between Radio Musi-o-tunya and the Livingstone Museum, the other two radio stations (Chikuni and Dzimwe) were used to provide a wider understanding of education practices in community radio stations in different settings.

This case study is qualitative within the interpretive tradition (Gerring, 2007; Gillham, 2000; Yin, 1993). Yin (2009) defines a case study as "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 18). The research is based on a "collective case study" (Stake, 2000, p. 437) approach where "a researcher may jointly study a phenomenon", in my case, community radio practice and environmental learning in the museum.

The research aims at generating case specific data which can be used to understand phenomenon across three cases of community radio stations – Dzimwe in Malawi, Chikuni and Musi-o-tunya in Zambia – to achieve better understanding (Stake, 2000) of community radio practices with regard to education through radio. In taking this approach of looking at three 'cases' I draw on Yin (2009) who states that "case studies can cover multiple cases and then draw a single set of "cross-case" conclusions" (p. 20) (see also Section 3.4). In this study I have drawn on the community radio practices from three community radio stations operating in different environments, and yet with some general operational approaches to educational programming.

In doing this, the research recognizes the significance of social learning (Wals, 2007; Glasser, 2007) through listening to radio programmes and the role the community plays

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in addressing environment and sustainability concerns. It also recognizes the role of community in community radio programming.

1.8   RESEARCH QUESTIONS AND OBJECTIVES

This research explored community radio practices and Livingstone Museum education practices with a focus on outreach programmes. The purpose of this exploration was to understand how a museum-radio partnership may be used in Livingstone Museum outreach programmes. To help me address this subject I set out with three questions and three objectives. The questions are:

1. How do the current museum outreach practices engage the Livingstone community in environment and sustainability concerns?

2. How does community radio currently engage listeners in social learning?

3. How can museum outreach and community radio programming be partnered in environment and sustainability learning?

The objectives of the research are:

1. To explore the past and current museum education practices at Livingstone Museum.

2. To investigate the education practices in community radio (Collective case study of three sites).

3. To review the data generated on museum outreach and community radio practices with a view to developing a partnership for engaging the Livingstone community in environment and sustainability concerns (Strategy workshop).

1.9   MY ROLE AND THE RESEARCH INTEREST

I work for the Livingstone Museum as a researcher, and one of my key responsibilities is to prepare museum education materials. At the same time, I work for the Radio Musi-o-

tunya as a broadcaster. In my broadcasting work I have worked with community groups on issues covering agriculture and governance. It is through these two work environments that the interest for this study was generated.

The research idea was influenced by the increased number of community radio stations in Zambia with five of them located in the Southern Province which is the focus of the Livingstone Museum's operations. In the museum there has been significant decrease in outreach educational activities due to, among other reasons, reduced funding. In addition the Livingstone Museum has worked in the past with Radio Musi-o-tunya on programmes mainly focusing on raising awareness in the community about the activities of the museum. Through this programme I realised that radio could probably offer much more than just awareness, especially in environment and sustainability issues. This process of enquiry with the community radio practitioners, radio listeners and the museum professionals provided information that is useful in the operations of both the museum and community radio stations (see Chapters 4 & 5).

1.10   OVERVIEW OF THE THESIS

In this thesis Chapter 1 introduces the research. It is arranged in such a way that it describes the geographical location of the study sites, and then provides a brief introduction of each of the institutions involved in the study (Chikuni Community Radio, Dzimwe Community Radio, Radio Musi-o-tunya and Livingstone Museum). The chapter then describes the research focus and introduces the research questions and objectives. I then provide the context of my role in some of the participating institutions, and explain what generated the interest to undertake the study. The chapter concludes with an overview of the general layout and content of the thesis.

Chapter 2 provides the history and context of the Livingstone Museum education activities and the community radio education practices. It explores the strategies of radio's use and museum education strategies. The chapter also explores the literature on the wider shifts in environmental education towards socio-ecological paradigm in southern Africa. The chapter concludes by examining social learning ideas (Wals, 2007; Glasser, 2007), and how these relate to radio listening processes.

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Chapter 3 discusses the methods and methodology employed in this study. It describes the methods used to generate data on community radio education practices and Livingstone Museum outreach education activities. It discusses how the sites and resource persons were identified and sampled. In addition the chapter discusses the ethical considerations I made in the research. It also highlights how the data was analysed.

Chapter 4 presents the evidence generated about community radio practices and museum education. It is arranged in three main sections (Sections 4.2, 4.3 and 4.4). Section 4.2 looks at education through radio. It presents evidence on design and format of at least one selected radio programme at each of the three studied community radio stations (see Chapter 3). Section 4.3 presents evidence generated about Livingstone Museum education practices, addressing exhibitions, lectures and outreach programmes. In addition the section highlights the challenges in museum education activities. The chapter concludes with Section 4.4 which presents data generated from the strategy workshop. The data is based on the reflections of the museum and radio practitioners about the possibility of working together to engage community in environmental learning.

Chapter 5 presents a discussion of the data presented in Chapter 4. The discussion is largely based on social learning theory (Wals, 2007; Glasser, 2007) to examine social learning processes in community radio programming, and how these processes could be linked to museum outreach education activities. The chapter generates analytical statements that attempt to respond to the overall research purpose.

Chapter 6 provides a summary of the study, highlighting the research findings in relation to the research questions. The chapter further makes recommendations about museum environmental education practices as well as community radio practices. The chapter concludes with a proposed framework for Livingstone Museum media-based environmental education approach, and an overall conclusion to the research.

1.11   CONCLUSION

In this chapter I have introduced the study and provided introductions to the institutions that were involved. I have also introduced the research focus as well as the research questions and objectives. In addition I have explained my role in some of the institutions involved in the study. To conclude the chapter I have provided an overview of the thesis based on the information presented in each of the chapters. In the next chapter I provide information from literature about museum education and community radio practices. I also discuss the shifts in environmental education approaches in southern Africa. I further discuss social learning theory as it relates to community radio learning practices.

HISTORY AND CONTEXT OF LIVINGSTONE MUSEUM EDUCATION, AND COMMUNITY RADIO PRACTICES

2.1 INTRODUCTION

This chapter provides the context and history for the wider study of museum education and community radio practices. I discuss the various forms that museum education takes, social learning in a community, and how education through radio takes place. I also discuss strategies of radio's use and methods of engaging listeners in education through radio. I discuss those with the wider paradigm shifts in teaching and learning approaches in environmental education in southern Africa. In conclusion I discuss the implications and trends of community radio practices with regard to museum outreach programmes.

2.2 HISTORY AND CONTEXT OF LIVINGSTONE MUSEUM AND ITS EDUCATION PROGRAMMES

The Livingstone Museum, introduced in Chapter 1, was established by the colonial government in the early 1930s. Its initial focus was to collect the local "material culture of the various ethnic groups which was fast dying" (The Rhodes-Livingstone Museum, 1951, p. 4). These collections became the foundation of what later became known as the 'David Livingstone Memorial Museum' (1934), then 'Rhodes-Livingstone Museum' (1939), and in 1966 became known as "The Livingstone Museum" – its current name (The Livingstone Museum, 1994, p. 2).

The education activities in the Livingstone Museum started in 1950 as a visual-aid scheme under the Government Department of Native Education and European Education. The purpose of starting the visual-aid scheme was for the schools within the territory to derive benefit from the museum (The Rhodes-Livingstone Museum, 1951). It is under this scheme that several 'school cases' (see fig 3, p. 87) were constructed for outreach education. In addition, museum education was undertaken using weekly shows of films to school children. The films were obtained from the information department, and focused on general topics of interest such as tribal studies and "big game" (The Rhodes-Livingstone Museum, 1951). Through this arrangement museum technicians

accompanied officers from the "Education Department" in outreach programmes. Eventually in 1973 the current Museum Education Department was established (The Livingstone Museum, 1994, p. 4).

Following from the initial visual-aid scheme, museum education involved a lot of outreach activities to many parts of Zambia, using school cases and films. The school cases had several themes that were linked to education topics in the mainstream school system.

As museums tend to be place-based and face challenges of small audiences, the outreach activities of the Livingstone Museum were seen as an effective response to these museum limitations. Through these activities a lot more people were reached, in addition to those who come to the museum. However, the outreach activities focused on a 'show and tell' approach which does not consider the audience as partners in the education process. This approach also does not necessarily regard the prior knowledge and indigenous knowledge as significant in the education process.

Although the Livingstone Museum started with a focus on ethnographic collections, one can still see that the aspect of natural resources management and utilisation was part of the early collections. For instance, the Rhodes-Livingstone Museum was described as:

> a museum of human culture and ecology ... designed to show how, starting from the smallest beginnings, the result of human endeavour have enabled men to conquer the handicap of his environment [sic] and have thus brought about the mastery and development of his country's natural resources (The Rhodes-Livingstone Museum, 1951, p. 3).

Following from this, in 1965 the Livingstone Museum established the current Natural History section (The Livingstone Museum, 1994, p. 3). The incorporation of cultural and ecological aspects in museum education relates to environmental education which over the years has shifted towards socio-ecological paradigms. In addition museum education over the years has faced challenges as a result of inadequate participation by audiences in the learning activities. The visitation has equally remained a challenge for museums. It is because of the desire for public participation and increasing audiences that the museum

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has used radio for promotional services. As indicated in Chapter 1, this study aims to re-look at what the museum can do through radio in its education activities.

2.3 RELATIONSHIP BETWEEN SOCIETY AND ENVIRONMENTAL EDUCATION

Many environmental issues arise due to social activities, and thus create opportunities for the need for community education and sharing of experiences. Beck's (1992) theory on risk society argues that development in the current approach (wealth accumulation) increases risks. To address these environmental risks, individuals and communities are exposed to various approaches that require them to make choices, and for people to make effective decisions that affect other members of the community, they need to communicate the available choices.

Education enhances the process of making choices. Beck's (1992) work helps society to identify risks, which then allows society to engage education in an effort to address risks. According to Hart, Jickling and Kool (1999) "we need to learn how we can live well in a place. This need to learn affords educational value to environmental education" (p. 105).

In environmental education, the attempt is to strive to move from an approach of teaching about problems arising from identified risks, to teaching about practices (O'Donoghue, 2007) that attempt to address them. If we are to work with community practices, we need to work with people within their daily contexts, and acknowledge that "integrating personal knowledge with existing knowledge in the field is crucial to learning" (Le Grange & Reddy, 2007, p. 80). As noted by Le Grange and Reddy (2007, citing Clover, 2000), addressing environmental issues requires that "environmental education reaches out beyond the classroom and spills into the world that reproduces environmental problems – the everyday world where decisions and action take place" (p. 80). Similarly Wals (2007) advises that "contextual solutions are required that are, at least partly, co-created and co-owned by those who are to (want to?) live sustainably" (p. 43). In this regard "social learning reflects the idea that the shared learning of interdependent stakeholders is a key mechanism for arriving at more desirable futures" (Glasser, 2007, p. 47). Therefore environmental education could be described as an attempt to address

environmental issues largely created by society, hence the link between society and environmental education.

2.4 WIDER SHIFTS TOWARDS SOCIO-ECOLOGICAL PARADIGMS IN ENVIRONMENTAL EDUCATION IN SOUTHERN AFRICA

2.4.1 Environment and sustainability issues are socio-ecological issues

Southern Africa is regarded as one of the areas of the developing world. It has many challenges such as HIV and AIDS, poverty, land degradation, loss of biodiversity and unpredictable rain patterns. While some of the challenges are ecological, their genesis has a link to community activities. According to Irwin (as cited in Lotz, 1999) "environmental problems are not problems of our surroundings, but - in their origins and through their consequences - are thoroughly social problems, problems of people, their history, their living conditions, their relation in the world and reality ..." (p. 48). Similarly, Janse van Rensburg (1996) observes that "when we examine environmental issues, we always find that although these issues are visible in the physical world, they start somewhere else - in the social environment - and to solve them, we need to make changes to our social systems and actions" (p.1). However, over time, many institutions and individuals have approached environmental issues with a distinction between social issues and ecological issues. For instance, the promotion of gazetting land for forest reserves as opposed to opening up more forests for agriculture may be problematic when viewed from one side. While conservation of forests is important for the promotion of biodiversity and healthy ecosystems, it may create conflict with the need for food by human beings, which mostly comes from agriculture, especially "in most African countries *where* agriculture supports up to 70 per cent of the population" (UNEP, 2006, p. 7. My emphasis). This scenario requires that a balance be struck between the needs of the environment and those of society. Environmental Education practitioners are thus, increasingly taking a socio-ecological approach when addressing environment and sustainability issues.

The United Nations Environmental Programme (UNEP, 2006) observed that, "Africa is losing its forest at a rate of 0.8 per cent per year. Important drivers include the demand

for fuel and agricultural land ... population growth ... inappropriate urbanisation ..." (p. 12). Similarly the Millennium Ecosystem Assessment (MEA) report (2005) observed that:

> humans have changed ecosystems more rapidly and extensively ... largely to meet rapidly growing demands for food, fresh water, timber and fuel which ... has resulted in a substantial and largely irreversible loss in the diversity of life on earth (p. 1).

Some of the environmental challenges in southern Africa include growth of unplanned settlements with limited access to services, power, and sanitation; and unsustainable use of forests as source of wood and making charcoal. These and many other challenges are not just due to ecological problems, but are linked to poverty and other social factors, hence the need for a shift towards a socio-ecological approach to address them.

2.4.2 Environmental education beyond awareness-raising

Environment and sustainability issues require the participation of a wider community to address them. It must also be noted that in addressing environmental issues, basic awareness creation does not necessarily bring about action-taking or participation. This creates the need to encourage and further develop participatory approaches and methods to address environmental issues (Lotz-Sisitka Olvitt, Gumede, & Pesanayi, 2006). As observed by O'Donoghue and Russo (2004), in environmental education practice "there has ... been a notable shift from providing information about environments and environmental issues to supportive work in local environments and a greater concern for practical actions for a more sustainable environment" (p. 344). However, there are further challenges such as limited communication means that make it difficult to link communities with each other and with service providers, and technocrats. One of the approaches to possibly enhance community participation (and possibly action-taking) in addressing environmental issues is through the use of community radio stations.

As Gough (1997) notes environmental education practices have shifted towards "enhancement of learners' capabilities for developing practical knowledge through direct perception of the 'informational structure' of their personal, social and physical environments" (p. 94). Gough (ibid) notes further that there is "growing recognition of

the socially constructed nature of knowledge and support for situation-centred learning/problem-posing education which involves students and teachers working together in action and reflection (praxis) ..." (p. 97).

In the southern African context, during the Southern African Development Community Regional Environmental Educational Programme (SADC REEP) ESD consultations, one of the key findings was that "action-oriented approaches to ESD practice that use participatory methodologies and draw on indigenous knowledge and local experience were most effective" (Lotz-Sisitka et al., 2006, p. 3). Similarly, O'Donoghue and Russo (2004) observe that in environmental education there has also been a shift from "directive, outside intervention to more engaging and participatory perspectives centred on a mobilising engagement and empowerment within how things are experienced and understood at a local level" (p. 344). The challenge then for environmental educators is to find communication means that ensure that many people or the wider community get involved in the identified participatory approaches to addressing local environment and sustainability concerns.

Dyball, Brown and Keen (2007) argue further that, "attempting to solve local problems by 'importing' solutions which have worked in a different context has met recurrent failure in terms of sustainability" (p. 182). Therefore learning resulting from interactions among local community members is likely to result in development of solutions that would adequately address local situations. This, however, requires suitable educational approaches to ensure learning about environment and sustainability issues takes place. Environmental educators need to undertake community capacity building for action-taking, and ensure ownership and longer term sustainability initiatives in addressing environmental issues.

In many parts of southern Africa most of the environmental education and conservation activities have involved extension programmes, campaigns, and nature-centred awareness programmes, mainly involving schools (O'Donoghue, 1993). These approaches engage various forms of media such as print media, television, radio and posters. O'Donoghue (1993) further observes that:

"these communication and nature experiences have been built around the notions of 'getting the conservation message across, creating awareness, clarifying values' and the ultimate goal has been to 'change behaviour'" (p. 29).

With this outline, O'Donoghue (1993) questions the idea of 'message communication' as a strategy of education to foster environmental change (p. 30). He then suggests that "meaningful communication needs a situation of sharing and trust ..." which " has to be co-constructed through participation that gives voice to relevant needs, empowers people to make choices and establishes the credibility of supporting partners" (p. 33).

In line with the foregoing, Lotz-Sisitka et al. (2006) observe that ESD practitioners are involved in reflective and reflexive practices where they are reflecting on their own practice, reviewing and changing in response to contextual factors and improved understandings of their practice. While there is this change in environmental education practice, the report by Lotz-Sisitka et al. (2006) also noted that the use of information communication technologies (ICTs) such as radio were hardly discussed as support strategy in environmental education. Yet, if environmental education is to involve many people in the community, one of the means to reach out to many people, is radio, especially community radio. This study has therefore come at an opportune moment to contribute to the identified gaps in the use of Information Communication Technologies in addressing environmental issues, which could allow taking on board the wider paradigm shifts towards socio-ecological approaches to environment and sustainability education.

The use of ICTs for communication about ESD activities and information dissemination also allows working with different learner groups in different learning environments and thus working with different ways of knowing (including indigenous knowledge). As Lotz-Sisitka et al. (2006) observed "mobilising indigenous knowledge in ESD is a very important feature of ESD practice in Southern Africa (p. 32). Therefore, both individuals and institutions working in the field of ESD should expand the horizon of the approaches used to engage the learners.

2.5   MUSEUM EDUCATION

Education in museums has been changing over the years from an approach that equated it to schooling, workshops and guided tours for schools and other organized groups, to a broad approach that includes exhibitions and publications (Hooper-Greenhill, 1994). However, in many parts of the world museum education has been undertaken with a uniform approach to be delivered to all the communities with minimal community input. For environmental education this has had a significant effect as it implies an attempt to have a 'one size fits all' approach to environmental education. Yet, it is well known that different communities will usually experience different environmental issues which will require specific responses to address them.

Museums are changing from being "static store-houses" for 'old' collections into "active learning environments for people" (ibid. p. 1). They "have always had to modify how they worked, and what they did" and these have been influenced by factors such as "context, the plays of power, and the social, economic, and political imperatives that surrounded them" (Hooper-Greenhill, 1992, p.1). The other major shift in approach has been in the realisation that "museum education may take place both in the museum and in the community" (Hooper-Greenhill, 1994, p. 142).

In looking at how the educational role of the museum is fulfilled, Hooper-Greenhill (1994) identifies two main types of communicative methods – "mass communication (distance learning) and interpersonal communication" (face-to-face) (p. 142). Mass communication would include methods such as displays, exhibitions, and publications, while interpersonal communication involves lectures, workshops and drama (ibid). Museums usually employ both methods of communication though the mass communication method dominates in most cases.

The mass communication method involving exhibitions does not seem to provide for effective engagement with the audience. In this regard Hooper-Greenhill (1994) advises that in the new century "museums must become more open, more democratic, more responsive and more professional" in the way they carry out their responsibilities (p. 2). Similarly, Walsh (1992) notes that:

the key to the successful future for museums has to be based on an idea of local democracy and public service, that is, the development of the museum as a facilitator for communities who wish to learn about the development of their place, a provision which should be available as an education service (p. 160).

 To this effect, democracy entails that the community should participate in museum activities, and when we talk about community participation, we should look far beyond the visitor who comes to the museum building. In addition, Hooper-Greenhill (1994) advises that the functions of a museum as a communicator "must be integrated with the functions of the museum as a store-house for collections, and the knowledge of collections must be related to and generated by the knowledge of the audience" (p. 2). How then can the museum provide the community, as the audience, with an opportunity to "generate the knowledge" without reaching out to the community's locality? One may further ask how many people visit the museum compared to those with the potential to do so. And of those that visit, how many can read or even have the time to read the captions on the exhibitions? These and many other questions remind us that there should be more to museum education than permanent exhibitions within museum buildings. The major challenges in current museum education approaches have to do with issues of access by the community, presentation of materials in a format that can easily be understood by the audience, and encouraging community participation in the preparation of museum education content. Walsh (1992) challenges museums to "be concerned with developing exhibitions which do not assume the public's ability to read displays" (p. 172).

Museum visitors in many parts of the world are influenced by what the museum has to offer. Currently, "most museums are very conscious that they need to expand their audiences and to be of relevance to more parts of their supporting constituencies" (Hooper-Greenhill, 1994, p. 143). In this realisation, museums have tended to take their staff and collections outside, into the community centres, schools and day centres (ibid). This approach was seen as being one of the innovative ways to broaden the museum audiences. However, it has had its challenges, ranging from associated costs, inadequate human resource, and how to engage the community in contributing to the content to be exhibited for learning.

With these changes in mind, one could still ask about the implications of any selected method of museum education on the overall performance of the museums. For instance, what are the budget implications as a result of the selected education approach; and how does the content relate to the context of the community to whom the exhibition has been (or is to be) displayed? These questions invite several responses and a further thought of other ways of conducting museum education.

2.5.1 Strategies of museum education

There are several strategies employed by museums in carrying out their role of education. One of the major methods is the use of permanent exhibitions mounted within the museum building. The exhibits would take different forms ranging from photographs to actual specimens (for example skull, skin, and fruit). The exhibited items will usually be accompanied by a caption that gives a summary of information about that particular item. While this method has been used for a long time and proves to be effective (Hooper-Greenhill, 1992), it does not address the issue of museum visitors who may not be able to read or write. Even for those that may be literate some of the exhibitions may contain literature that may not be in their language (or the language they can read and write). In some cases the language used may even be too technical for some visitors to understand.

Apart from permanent exhibitions, the museum uses temporary exhibitions for education purposes (Hooper-Greenhill, 1992; 1994). A temporary exhibition is different from a permanent one in the sense that usually it focuses on a specific subject and lasts for a limited period of time on display. However, like a permanent exhibition, it also has captions and materials on display.

Other methods that are not so commonly used include outreach programmes where the 'museum' virtually moves to the community to engage the community members in their locality, using exhibits, or videos as well as conducting workshops. In the outreach programmes "the activities and events are organised by the museum, but take place in a community venue such as a shopping centre, a school ...." (Hooper-Greenhill, 1994, p. 52). Hooper-Greenhill (ibid) also notes that "some museums have established mobile museums that carry collections and events to housing estates, school play-grounds ..." (p.

52). The challenge with this kind of outreach when dealing with environment and sustainability issues is that environment and sustainability issues are different from one community setup to another. And the preparation of outreach materials to suit different communities can be a costly undertaking.

2.6   STRATEGIES OF RADIO'S USE

The purposes of radio as a development communication tool have been identified as: "to motivate; to inform; to teach; and to change behaviour" (Jamison & McAnany, 1978, p. 18). Jamison and McAnany (ibid) describe a strategy of radio's use as "the way in which radio and other resources are organized to achieve the purposes" (p. 18) as outlined above. There are three basic strategies used in radio programming: open broadcast, through radio listening groups, and through the use of campaigns.

Radio has the flexibility for playing various roles such as being "a means for the rapid dissemination of key information, in a great many languages and in geographically vast or restricted areas"; and being "a platform for dialogue and debate among development stakeholders" (Iibouda, 2003, p.7). As a result radio has been employed in many situations mainly for information dissemination. Its use in educational programming is slowly increasing in many countries.

The use of radio for education purposes has significant advantages over other forms of media. Some of the comparative advantages of community radio over other media are; "it is cost-effective, for those who run the station and the audiences and it is ideal for [a] huge illiterate population that still remains marginalized, especially in the rural areas of the third world" (Noronha, 2003, p. 2168). Additionally, the community can use their local language to communicate through radio, and as such, "its language and context can be made most suited to local needs; and it is relevant to local practices, traditions and culture" (ibid). Jamison and McAnany (1978) argue that "radio should generally be the medium of choice in low-income countries if an electronic medium is to be used at all" (p. 35).

Jamison and McAnany state that "**open broadcasting** encompasses all of those radio uses that concentrate on producing and broadcasting the radio messages, but do nothing to organize or send supporting material to audiences." (p. 19). It is message-centred, usually aimed at motivating listeners, and getting across modest amounts of information (ibid, p. 66). This strategy is the major way in which national radio broadcasting is operating. However, recent trends have shown an increased desire to maintain community links with radio for follow-up in programming.

According to Jamison and McAnany (1978) "**regular listening groups** refers to the use of radio that calls for the organisation, supervision, and support of local listening groups that meet regularly to discuss and often act upon the radio messages" (p. 19). It focuses on both the message and the audience's perspectives and responses to the broadcasting. Examples of regular listening groups include radio farm forum and radio schools. This strategy requires huge resources to set-up the groups and interest the members to be part of the radio activities. It is, however, a very effective and fairly cheap approach in the long term. Many of the community radio stations employ this strategy in their programming.

The other strategy used in radio programming is by way of campaigns. "Campaigns combine many of the features of the other two categories [radio listening groups and open broadcasting], but extend over a short period of time (3 to 6 months), focus on a specific topic, and have only a limited set of objectives" (Jamison & McAnany, 1978, p. 19). Its major characteristic is that it makes a concerted effort "to motivate and involve a large portion of the population in its activities" (ibid, p. 72).

2.6.1 Education through radio

Classroom education, especially in Africa and other developing countries, has not reached all the potential learners. Many of these countries are still struggling to make this education universally available. This is despite the world declaration on 'Education for All' article 1, which states that "every person – child, youth and adult – shall be able to benefit from educational opportunities designed to meet their basic learning needs" (EFA, n.d). Southern Africa and other developing countries still have challenges ranging from

human resource, educational materials and infrastructure, "logistical difficulties working with very rural communities and low levels of literacy and capacity at community level" (Lotz-Sisitka et al., 2006. p. 9), and as a result the provision of 'education for all' remains a far-fetched desire. However, in the recent past, information and communication technologies such as radio have been used for education purposes, and have shown potential to improve accessibility and quality of education especially to rural communities.

Education through radio is one of the methods that have been used since the early 1940s to address issues of access to education and to convey agricultural messages to mostly rural communities (Jamison & McAnany, 1978). This form of education has taken various designs from one situation to another, and over time the formats have been improving. "In some cases it is supported by the use of printed materials, by local discussion groups …" and sometimes it is "designed so as to permit and encourage listener reaction and comment" (Nwaerondu & Thompson, 1987. n.p). Nwaerondu and Thompson (ibid) further note that in some cases education through radio provides the audience with an opportunity to "raise questions and to receive feedback" (see Section 4.2.9). This therefore indicates that through radio there are opportunities for community engagement in the learning process.

Alumuku (2006) observes that community radios are usually small and organised in such a way to respond to the specific needs of the grassroots communities. This is one of the factors making community radio suitable for environmental learning since environment and sustainability issues are different from one place to another. The understanding of how community radios operate with regard to community participation in programme preparation can provide for 'community generated environmental education content'. As such, one needs to understand fully the educational programming practices of these community radio stations in order to effectively engage them in environment and sustainability learning.

While education through radio, especially community radio, can be a response to issues of access and improving quality of education in the formal school system, it could also be

the response to challenges of poverty and other socio-ecological challenges in the community at large. Alumuku (2006) observes that through community radio, "specific problems can be analysed, remedies discussed, and those most affected – or who can help with the solution – mobilised to collective action" (p. 40). The significance of community radio in this regard is that it is characterised by "the active participation of the community in the whole process of creating news, information, entertainment and cultural programming, with an emphasis on local issues and concerns" (Alumuku, 2006, P. 46). With regard to education for sustainable development (ESD) these participatory approaches and methods are seen to be important in building capacity for action-taking, and also for ensuring ownership and longer term sustainability of initiatives (Lotz-Sisitka et al., 2006, p. 15). The use of radio for education purposes provides the opportunity for wider community participation in addressing local community concerns.

2.7   ENGAGING LISTENERS IN EDUCATION THROUGH RADIO

Listener engagement in education through radio is a key factor if radio is to respond to local community needs, as identified by the local community. The purpose of education broadcast is to bring about desirable changes in communities to foster community development. Manyozo (2005) describes development broadcasting as:

> the strategic theory-based and methods-driven employment of broadcasting media and technology as both support and main participatory interventions in building local capacity, strengthening local decision making structures, reducing illiteracy, poverty and improving socio-economic growth (p. 3).

From this description it appears that community development is the focus of activities in development broadcasting. Through community radio, ideas are provided, relationships are facilitated and collaboration is promoted, which enhances the process of change and development (Alumuku, 2006). The strengthening of local decision making structures is highly desired to bring about effective community participation in community development issues. Manyozo (2005) further notes that "central to development broadcasting practices is the community ownership of radio programmes and structures, in which participation is both an interaction, flow and sharing of local knowledge and experiences" (p. 3). Therefore, the significance of community broadcasting is that it

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offers a communication channel, especially to the rural community who usually have limited means of communication.

Rural education broadcast has been conceived as "use of radio for non-formal education purposes primarily to support planned social change in the rural setting" (Librero, as cited in Manyozo, 2005, p. 2). With the development of community radio in both rural and urban areas, its role in education has continued to be of significance to community development. For instance, Russo (2002), in reporting the activities of the Ecological Youth of Angola (JEA), stated that all their radio programmes encouraged people to present their opinion, concerns and problems. In the process of sharing these opinions and concerns "possible solutions are always found, and where necessary referrals, to other people or institutions, are provided" (p. 89). In this way the approach to development takes on board wide sources of contributions. Issues are raised by the community, and solutions are suggested by either the same community or another part of society.

Community radio stations have involved the community in radio activities in various ways. One of the ways is the use of volunteer broadcasters as well as through Radio Listener Clubs (RLC) or what other scholars have referred to as radio forums (Jamison & McAnany, 1978) or radio listening groups. In the following sections I discuss three methods of education through radio – the Interactive Radio Instruction, Radio Farm Forum and Radio Listener Clubs.

2.7.1   Interactive Radio Instruction

Bosch (1997) looked at one approach to education through radio called Interactive Radio Instruction (IRI). In this study Bosch (ibid) describes IRI as "a methodology designed to turn a typically one way technology into a tool for active learning inside and outside the classroom…." (p. 1). In this approach the messages to be learned are delivered by the 'audio teacher' "through radio or audio cassette, and classroom activities carried out by the learners are carefully integrated" (Ibid). This method can be used for both formal and non-formal learning environments. An understanding of this approach is important to my study because museum education in general, and specifically environmental education,

through outreach programmes is essentially non-formal, though formal elements can easily be integrated. In addition IRI can be made more entertaining and culturally appropriate. The IRI programmes need to be engaging, relevant and appropriate (Bosch, 1997). For instance, Bosch (1997) refers to environmental education programmes in Costa Rica where a soap opera was adopted, which made the programmes popular. Bosch (ibid) however cautions that "it is difficult to pin the success of the IRI methodology on any one characteristic" (p. 6). IRI programming has its strength based on two factors – "low cost and high reach" (Bosch, 1997. p. 3). These factors are significant for environmental education in southern Africa.

2.7.2 Radio farm forums and Radio Listener Clubs (RLC)

The process of learning through radio has been used in many countries. One major feature observed in some of these countries is that they have involved some form of mediating arrangement in the form of Radio Listener Clubs or Radio Forums. According to Rogers et al. (cited in Jamison & McAnany, 1978):

> a radio forum is a small listening group that meets regularly in order to receive special radio programmes, which members then discuss. On the basis of the programme and discussion, they decide what types of relevant action to take (p. 85).

The key aspects of this description are that members meet regularly and have an opportunity to deliberate the issues raised in the programmes which may result in group decision and/or common action. It is through deliberation that learning could take place.

The history of using radio for agricultural purposes has equally been reported in many parts of the world. In India a study by Paul Neurath (as cited in Nwaerondu & Thompson, 1987) looked at the effects of Farm Radio Forum Project and he found that "forum members learned much more about the topics under discussion than did adults in villages without forums" (n.p). Nwaerondu and Thompson (1987) also cite the study conducted by Jain (1969) on the effects of rural radio forum, in which "the results showed that group listening followed by group discussion was more influential in changing beliefs and attitudes towards innovation than was group listening without discussion"

(Nwaerondu & Thompson, 1987, n.p). In addition, some studies (Sweeney & Parlato, cited in Nwaerondu & Thompson, 1987) concluded that "radio plays an effective educational role both as the sole medium or in conjunction with print and group support" (n.p).

In the case of radio farm forums, the radio broadcast is facilitated by extension officers and by "featuring field reports like interviews with successful farmers …" (Manyozo, 2005, p. 4). In this way there is interaction between the extension officers and the farmers in the field, as well as with the featured programmes on radio. Under the farm forums the purpose of the broadcast is to give the farming community short and to-the-point information segments aimed at improving agricultural output (Iibouda, 2003, p. 2). This level of interaction involves the wider community and reaches out to many individuals. The levels of interaction through radio have now been enhanced due to improvements in technology. For example, the listeners are able to call (by telephone) the radio station just as the radio programme is being transmitted. In this way, educational interaction is improved, resulting in effective learning experiences. The farm forums were later transformed into listening groups.

The use of Radio Listener Clubs needs to create opportunities for the audience to effectively take part in the programming. In working with communities on environmental education issues, Russo (2002) recommends considering the community as partners rather than target groups in programming. Based on the experience of the Ecological Youth of Angola (JEA), Russo (2002) states that:

> we have noticed that target-based approaches seldom promote dialogue and participation and are therefore limited in enabling public participation in decision-making processes. We have tried instead to consider the audience of our work as partners rather than targets (p. 92)

Similarly, Mchakulu (2007), commenting on the significance of community participation in Radio Listener Clubs observes that:

> the Radio Listener Clubs present the local individual with an opportunity to develop those skills necessary in an egalitarian society, including the ability to

not only present one's view but also to listen critically to others and to deliberate on both sides of an issue in order to arrive at the best decision for all concerned (p. 265).

However other scholars (Perraton, 1978) have argued that trained facilitators must be used in order to successfully utilize educational radio. Perraton (1978) further notes that group learning is more effective than individual learning; and that group discussion is an effective method of learning from radio.

The studies by Mchakulu (2007) and Manyozo (2005) on Radio Listener Clubs in Malawi highlighted several activities undertaken through Radio Listener Clubs. While Mchakulu (2007) and Manyozo (2005) undertook to study the role of Radio Listener Clubs in Malawi, they did not focus on how the community radio practice is undertaken to engage the listeners in environmental education. Their focus was on youth participation in Radio Listener Clubs, and people-centred development, respectively. The study on environmental education in museums through radio seeks to address the educational radio practices in community radio and how these could be aligned to museum environment and sustainability learning.

2.8   SOCIAL LEARNING

According to Glasser (2007), as long as learning by individuals or collectives involves some form of input drawn from others it is characterised as social learning. His argument is based on the understanding that as individuals engage in some form of learning, they more frequently employ strategies that "rest on some interaction with living beings or, at least, employing the artefacts (e.g. language, tools, books, drawings, videos, music recordings, software, etc.) of living, or once living, beings" (ibid, p. 48). According to Wals and van der Leij (2007) social leaning can take place at different levels such as the individual level, the level of a group or organisation or at the level of networks of actors and stakeholders (p. 18). As such social learning provides the opportunity to directly engage both a broad range of perspectives and the whole human being. It therefore has the potential to promote more open, equitable and competent learning processes (Glasser, 2007).

Glasser (2007) further identifies active and passive social learning, and characterises listening to radio as a form of passive social learning, based on his observation that passive social learning "does not require inputs in the form of communication or interaction –direct feedback- from other living beings" (p. 49). I agree with Glasser (2007) that learning taking place through radio is social learning. However, as Nwaerondu and Thompson (1987) note, in some cases education through radio provides the audience with an opportunity to "raise questions and to receive feedback" (n.p). Community radio stations have structures in the form of Radio Listener Clubs which provide almost immediate feedback to the radio messages through channels such as telephone and letter writing. Even during open broadcasting, listeners can communicate with the producers/presenters at radio stations to ask questions or make comments. This form of participation is encouraged by radio programme producers. The interactions between radio and the listeners are planned and encouraged, and as such I argue that Glasser's (2007) view about radio listening being a form of passive social learning, based on the idea of 'direct feedback' as a requirement, may have to be revisited.

Additionally, Glasser (2007) identifies three categories of active social learning – hierarchical, non-hierarchical and co-learning. Hierarchical social learning considers one individual or group to know better than the other, while in non-hierarchical social learning the learners treat each other as partners. On the other hand co-learning requires team building and as such has the potential to generate new knowledge (Glasser, 2007).

When people interact in the community, they inevitably learn from one another. Some of the strategies that people employ in learning include "observation, imitation, modelling, self-instruction, conversation, and mentoring" (Glasser, 2007, p. 48). Social learning involves aspects of modelling which has a tremendous multiplicative power (Bandura, 1977), and radio is one of the tools that are used for modelling practices and choices. In addition, radio has the characteristic of broadcasting uniform messages to many people at the same time. In this case then radio could be used as a tool to facilitate social learning. Wals (2007) observes that:

> through facilitated social learning, knowledge, values and action competence can develop in harmony to increase an individual's or a group's possibilities to

participate more fully and effectively in the resolution of emerging personal, organisational and/or societal issues (p. 19).

According to Wals and Heymann (2004) "in social learning the interactions between people are viewed as possibilities or opportunities for meaningful learning" (p. 9). They further view social learning as "an intentionally created purposeful learning process that hinges on the presence of the 'other' or 'others'" (ibid). With this in mind, social learning therefore should provide space for dialogue and exchange of ideas and feelings such that each participant benefits from the presence of the 'other'. As Kozulin, (as cited in Daniels, 2008) observes, in learning interactions one of the possible generators of consciousness is "the social environment and experiences of others" (p. 8). Kozulin (ibid) further emphasises that "an individual becomes aware of him or herself only in and through interactions with others" (p. 8). Such interactions are beneficial in environment and sustainability learning because they facilitate dialogue and exchange of experiences and ideas to bring about learning and practice change.

Sharing experiences is a significant undertaking in efforts to address environmental issues because these issues require wider participation to effectively manage them. This follows from the observation by Dyball, Brown and Keen (2007) that "environmental problems inevitably demand cooperation between a number of different groups operating at a number of different levels, including individual, community, specialist, and government" (p. 181). Similarly, in the southern African context, the Southern African Development Community Regional Environmental Educational Programme ESD consultation process recommended that Environment and Sustainable Development (ESD) practices should include "working with different learner groups in different learning environments" and that this learning should involve "participatory, active and learner-centred methodologies" (Lotz-Sisitka, Olvitt, Gumede & Pesanayi, 2006, p. 12). In this regard every member of the community is expected to take part in environment and sustainability learning and contribute to efforts to make the world a better place to live in. Therefore, the learning community can be as large as one decides to make it. The challenge is to come up with different approaches to learning that would suit various

community groups. Social learning through radio programming is one approach that can be used to address the learning needs of different groups in a community.

Dyball, Brown and Keen (2007) highlight 'reflection' as one of what they call "the five braided strands of social learning" (p. 183). They contend that "reflecting on the value of what we know and how we know it leads to new understandings and is a crucial component of successful social learning" (p. 183). When a community shares experiences, the level of engagement and the diversity of experiences have an impact on the kind of reflection that the participants engage in. The higher the diversity, the more challenging the engagement is likely to be, and one way to increase this diversity is through radio, as it reaches out to many at the same time. It can reach people living in remote rural areas in their own languages and dialects (Freeplay Foundation, 2009).

In communities where children have access to learning from informal community involvement, learning through keen observation and listening in anticipation of participation is valued and emphasized (Rogoff, Paradise, Arauz & Angelillo, 2003). In Zambia learning through listening to radio as a family or group builds on the cultural approach to learning where children are expected to learn from older people by observing [watching and listening] what the adults are doing or talking about. As Rogoff et al. (2003) argue, "an emphasis on learning through intent participation … fits especially with the practices of cultural communities that routinely include children in the mature activities that are part of the community's daily life" (p. 179). In the intent participation tradition, experienced people play a guiding role, facilitating learners' involvement and often participating alongside learners (ibid). Such an approach could be useful to successful environment and sustainability efforts in the southern African context. Therefore a clear understanding of social learning approaches in community radio can allow integration of environmental learning into the community radio programming.

2.8.1   Radio listening as a social process

In most rural communities, listening to radio programmes is a communal undertaking. A family will normally listen to radio as an entity or may be joined at times by other community members that may not have radio sets. This is common for programmes that

are well advertised or widely talked about, which normally would have captured community interest. Examples would include sport, radio drama and community development orientated programmes. In this setup there is no age restriction and as such, apart from learning that takes place through radio, the listeners learn from one another through the discussions (formal or non-formal) that usually follow such radio programmes (Manyozo, 2005). This form of learning from one another in a community is what has been referred to as social learning (Wals, 2007; Glasser, 2007).

"In the field of environmental education, alongside key concepts such as interest, awareness and sensitivity, knowledge and understanding, attitudes and values, and skills, participation remains enshrined as a key objective (and approach for learning)" (Reid, Nikel & Simovska, 2008, p. 37). The study of how the museum can use radio to undertake environmental education through outreach activities can help address some of these concepts. Above all it can address the high cost associated with the usual approach to outreach programmes where museum staff have to physically go out to the communities for education activities. Such a study can provide some insights on how social learning in the communities, focussing on environment and sustainability concerns, could be enhanced through the museum outreach programme. The use of community radio might effectively deal with the many challenges facing the outreach programmes because of 'its effectiveness as a medium of instruction and its widespread availability' (Nwaerondu & Thompson, 1987).

2.9   CONCLUSION

In this chapter I have discussed the history and context of the Livingstone Museum education programmes and how education in museums is undertaken. I have also discussed the wider paradigm shifts in environmental education in the southern African context, where the focus is on employing various approaches that recognise the importance of community contribution in addressing environment and sustainability concerns. In addition I have discussed how radio has been used for education purposes and the ideas of social learning as it relates to learning in communities.

Radio has been used for educational purposes for many years now, with the major developments taking place just after the First World War. Education through radio has been used to address issues of access and cost as well as relevance of the education material to the context in which it is used. In the next chapter I discuss the methodology I employed in generating data about museum education and community radio practice.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the methodology used in the generation and management of data. The study, as outlined in Chapter 1, looks at education programming practices in community radio, and the museum education practices. The methods took into account the different settings in which the institutions involved operate. The methods also focused on specific radio programmes at each radio station for data generation. The major method used to generate the data was face-to-face semi-structured interview. In addition, in this chapter, issues of ethics and trustworthiness of the data generation methods are discussed.

3.2 RESEARCH ORIENTATION

This study, as explained in Chapter 1 was meant to review the current practices and challenges in museum education at Livingstone Museum and, alongside this, to try to understand the educational practices in community radio stations, with a view to learn how the museum could possibly work with radio in outreach programmes on environment and sustainability issues. This would involve understanding how community radio practitioners make meaning of what they do with regard to educational programming. As such an interpretive case study approach was adopted. As indicated by Janse van Rensburg (2001), using an interpretive approach provides an opportunity to understand what is going on in the context of the study. Similarly, Terre-Blanche and Durrheim (1999) argue that interpretive research strives to make sense of experiences, feelings and social situations through studying their natural settings. Further, Connole (1998) observes that the "interpretive approach places primary emphasis on understanding what is going on in the situation, where the researcher, can identify patterns of meaning which emerge from them" (p. 14). In this case I chose to study the radio stations and the associated listener groups, to understand how social learning through radio programming takes place, and how possibly this mode of learning could be used by the Livingstone Museum to undertake environmental education activities.

In this study I considered the many years of broadcasting of the community radio stations, especially focussing on educational programming. I also took note of the mainly rural communities that these community radio stations broadcast to, their community challenges and how the radio is still able to secure listenership from such communities. I investigated how radio producers and managers were undertaking education radio programming to ensure that learning takes place, and also how they get to know if learning has indeed taken place. I investigated the mechanisms involved in getting the feedback and the whole process of listener engagement in radio programming. In addition I investigated how the listeners engage with the radio stations, and in their view, how learning takes place through radio. I did this considering that it is the listeners who are intended for the educational programmes and, it is important to understand their view and what their understanding of education through radio is.

3.3   CHOICE OF STUDY APPROACH

In this study I chose to work with listener groups associated with community radio stations in order to understand how learning takes place and what role Radio Listener Clubs (RLC) play in education radio programming. I decided to focus my attention on certain specific educational radio programmes in each of the selected radio stations. I did this based on my initial enquiry during the planning stage of the study, about how Radio Listener Clubs operate with regard to listening to radio programmes. The approach in focusing on certain specific radio programmes was meant to yield more information since the inquiry indicated that members of Radio Listener Clubs listen as a group to specific programmes. As a result, at Dzimwe Community Radio, I focussed on a programme looking at environmental conservation, while at Radio Musi-o-tunya my focus was a radio programme called 'Our Family'. At Chikuni Community Radio my focus was two pronged, addressing mainly the operations of the radio schools and the general operations of Radio Listener Clubs. These clubs are directly involved in radio programming at the radio stations. At both the museum and radio stations I worked with managers and producers of programmes, and education personnel. I used an interpretive case study approach (see Section 3.4).

3.4   DESCRIPTION OF THE RESEARCH METHOD

The research is conducted as a qualitative case study within the interpretive tradition (Yin, 1993; Gillham, 2000; Gerring, 2007). Simons (2009) describes case study research as "that process of conducting systematic, critical inquiry into a phenomenon of choice and generating understanding to contribute to cumulative public knowledge of the topic" (p. 18). This study employs what Stake (2000) refers to as 'collective case study' (multi-site qualitative research) where *a researcher may jointly study a phenomenon* (my emphasis)*, in my case, community radio practice and environmental learning at the Livingstone Museum. According to Stake (ibid) a collective case study is undertaken when one wants to understand phenomenon based on a collection of cases. Stake (2000) argues further that the cases in collective case study "are chosen because it is believed that understanding them will lead to better understanding, perhaps better theorising, about a still larger collection of cases" (p. 437). The focus of such a study is the phenomenon and not the individual cases themselves. In taking this approach of looking at three 'cases' of radio practice I also draw on Yin (2009) who states that "case studies can cover multiple cases and then draw a single set of "cross-case" conclusions" (p. 20). In other words lessons can be drawn about a particular phenomenon from across several cases.

 Yin (2009) defines a case study as "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 18). Similarly, Gillham (2000) describes a case study as one which investigates a unit of human activity which can only be studied or understood in context, to answer specific research questions, drawing on evidence from within the case setting. This study is trying to understand community radio practice within context, in an attempt to shift the focus of Livingstone Museum outreach education from that involving physical movement of personnel and materials from one place to another, which has serious financial implications, to one that uses radio, and reaching out to many.

I adopted a collective case study approach to try and capture a wider variety of community radio practices, drawing on the diversity of the operational contexts of the radio stations involved.

In the process of developing the case studies I used several data collection techniques to generate the necessary data to respond to the research questions. In the following section I discuss these data generation techniques.

3.5   DATA GENERATION

In generating information for this study I used three main methods: face-to-face semi-structured interviews, document analysis and a strategy workshop. I worked with museum education and research staff and managers, community radio managers, producers and presenters, as well as representatives from community radio listener groups. The data generation process was undertaken in two phases. The first phase involved interviews and document analysis, and it generated data that fed into the second phase which involved a strategy workshop.

3.5.1   Interviews

Simons (2009) compares the interview with other methods of generating data and observes that, "interviews enable *'the researcher'* to get to core issues in the case more quickly and in greater depth, to probe motivation, to ask follow-up questions and to facilitate individuals telling their stories" (p. 43, my emphasis). Similarly, Ary, Jacobs, Razavieh, and Sorensen (2006) note that an interview has the advantage of supplying large volumes of in-depth data rather quickly. According to Gillham (2000) interviews are suitable for use "when a researcher has questions that are mainly 'open' and require an extended response with prompts and probes from the researcher to clarify the answers" (p.62). Gillham (ibid) further notes that face-to-face interview has its strength in the 'richness' of the communication that is possible. Similarly, Merriam (2001) observes that the use of face-to-face interview "allows the researcher to respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic" (p. 74). In this study all the questions I asked were open-ended and required explanations. Therefore the face-to-face interview using semi-structured interview schedule was the most suitable approach for data generation.

In my preparation for the interviews I developed a semi-structured interview schedule and piloted it with environmental educators within the Environment and Sustainability

Unit at Rhodes University and a museum practitioner at a local museum in Grahamstown, South Africa. This exercise provided me with an opportunity to gauge how clear my questions were, and whether my interviewees would understand the questions to mean what I intended to find out. Based on the comments and responses from my pilot respondents I amended the schedule and some questions were either rephrased or merged to make them easier to understand, at the same time capturing the essence of the questions.

In this study I interviewed a total of twenty two (22) individuals. At Dzimwe community Radio Station I interviewed three people (coded as RDI-1; RDI-2; RDI-3); at Chikuni Community Radio I interviewed four radio affiliated staff (coded as RC-1;RC-2; RC-3; RC-4) and two from Radio Listener Clubs (coded as RC-5; RC-6), while at Radio Musi-o-tunya I interviewed four radio affiliated staff (coded as RM-1; RM-2; RM-3; RM-4) and six individuals from Radio Listener Clubs (coded as RM-5;RM-6;RM-7; RM-8; RM-9; RM-10). The other three interviews were conducted with Livingstone Museum Staff (coded as MI-1; MI-2; MI-3).

The three interviewees from Dzimwe Community Radio were chosen on the basis of the work they do within the operations of the radio station. One of the respondents was chosen from management in order to obtain insights into the community radio programming and challenges thereof. The other two interviewees were chosen because they are producers and presenters, and each of them had worked with the environmental education programmes at Dzimwe Community Radio, which was the programme I focussed on in choosing Dzimwe as a study site.

Chikuni Community Radio was equally chosen on the basis of its educational programmes and to provide the Zambian experience. The education programmes at Chikuni Community Radio are coordinated from two angles – the Catholic Church Parish (who are the owners of the radio station) and the Community Radio. As such I interviewed the education programmes coordinators from the parish and the radio station, radio programme producers and managers, and representatives from Radio Listener Clubs.

At Radio Musi-o-tunya I interviewed three producers, and one education programme coordinator working with a funding organisation but linked to the education programmes at Radio Musi-o-tunya. This choice was on the basis of the work being done in one education radio programme called *Our Family.* In addition I interviewed six representatives from Radio Listener Clubs who are also directly involved with the operations of the *Our Family* programme.

In conducting all my interviews I firstly explained to the management of the institutions involved and the individual interviewees why I wanted to interview people and what the focus and purpose of my study was (see Section 3.7). They all accepted to be interviewed. During the interviews, with the permission of the interviewee, I recorded the interview and later transcribed the outcome to generate text. After transcribing the interview, I showed it to the interviewees for comments and/or adjustment in a process referred to as member checking. The purpose of transcribing the interview was to create a document which is easier to work with (see appendix 1), and to ensure that I capture all the information that emerges from the interview (Simons, 2009). In addition, I had to take field notes which equally assisted me in writing this report.

The interview technique is suitable for this study because the study draws on people's experiences in their practice, which can be differently understood by individuals even when operating under similar circumstances.

3.5.2   Document analysis

In this study I came across a limited amount of relevant documents. I searched the few documents obtained from all study sites for clues to understand the practices and values of the organisations involved (Simons, 2009). While document analysis is often a useful precursor to observing and interviewing, I only managed to obtain most of the documents at the time I was conducting the interviews. The document analysis method is useful because it brings out some of the issues that may not be remembered easily by the interviewees.

In almost all the institutions I worked with, the documents readily available were mainly minutes of meetings and quarterly and annual reports. These documents essentially addressed what was being done, and not how and why it was being done, in the institution. This study was more interested in how education practices are conducted, and why they are done in particular ways, an aspect which many of the documents could not address.

In order to generate data from documents, I prepared document analysis schedules (see appendix 6) in which I identified the data on the basis of the themes generated from interview data (see Table 3.1). In the schedule I indicated what data I found, and also the meaning of the identified data item in relation to my research questions.

Table 3. 1 Summary of themes

Category	Sub-category
Education programme format	- Field recorded programmes by producers - Programme content initiated by community, followed by expert commentary - Use of externally produced programmes - Using magazine format - Working with questions in programmes - Working with groups - Using interviews both in studio and in the field. - Interactive Radio Instruction (IRI)
Radio programme production in community radio	- Using interviews and group discussions - Recording of radio listener clubs by producer - Programmes prepared by producers as well as Radio Listener Clubs
Facilitating learning through community radio	- Distribution of radio sets - Formation and training of RLCs - Working with local community leadership
Working with questions in programme production	- Questions from production team to initiate debate - Questions from listeners seeking clarification
Radio education through drama and stories	- Drama to create suspense and arouse interest - Community relate drama to life in community - It is easier to teach through drama and stories - Drama and stories teach a wide age range - Keeps the listener listening, and learning

Working with groups in radio programming	• Groups encourage listening to radio • Facilitates community action-taking • In group people/communities learn from each other • Makes it easier for community and radio to communicate
Learning through Radio Listener Clubs (RLC)	• RLC discuss the programme – relevance, lessons learned, areas not clear … • RLC ask and answer questions as a group • Taking action as a group following the programme • Take part in programme through engagement via phone, letters ... • Walk-in visits for clarification of issues discussed on radio
Does learning through radio really take place?	• Action taken after programmes: Dzimwe- tree planting; Chikuni- radio school results, reduced child abuse; Musi-o-tunya- building nursery school, fighting property grabbing
Feedback mechanism	• Through telephone • Through letters from listeners • Through field recordings by producers, coordinators etc • Through special radio programmes • Through Radio Listener Clubs • Through news gatherers • Through feedback forms
Challenges in education radio programming	• Low funding • Inadequate equipment • Lack of adequately trained personnel • Difficult to find able and willing resource persons

3.5.3   Strategy workshop

The interviews were followed by preliminary data analysis which led to the identification of preliminary themes. The information generated was then used during the strategy workshop involving Radio Musi-o-tunya and Livingstone Museum staff (see appendix 4). These two institutions were selected for the workshop because they are the focus of the study; and the aim of the strategy workshop was to obtain insights as to how the two

institutions could work together, in a partnership format, to engage the community in environment and sustainability issues.

Fleming (1997) defines a workshop as a participatory learning meeting that empowers people through active sharing of knowledge, skills and experiences. In this workshop I wanted the participants to engage fully in the discussion with a clear understanding of the research purpose. I presented an overview of the research proposal, highlighting what I intended to do and why the research was being conducted. I then invited the participants to ask questions or make comments about it. Thereafter, I presented the preliminary research findings which focused on how museum education is undertaken; radio programmes format and preparation; community involvement; how feedback is obtained by both the radio and the museum; and what challenges are faced by both the museum and the radio (see appendices 2 and 3). This process helped me prepare the participants for engagement in the next phase of the workshop. It also helped me to involve the participants in what is referred to as 'member-checking' (Stake, 1995) to see the validity of what I had captured about their education practices.

I then used coloured sweets to arrange the workshop participants into four groups with four members each. This method resulted in the distribution of radio staff into different groups, which was desirable because there were only three of them, but it happened by chance. The Livingstone Museum had 12 participants at the workshop. The low representation by the radio staff is due to the low number of employees at the radio station.

In this workshop, the following three basic questions were asked:

1. Is it possible that the radio could work with the museum to prepare educational programmes? If so: what should be done? Why should it be done? How can it be done?

2. Is it possible that the museum can work with radio to engage the community in environment & sustainability issues? If so: what should be done? Why should it be done? How can it be done?

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3. Is it possible that the museum and radio could work together to reduce the cost of educational programming in both museum & radio station? If so: what should be done? why should it be done? how can it be done?

The resulting data was captured using video and audio recording. In addition, the participants, while working in groups were requested to write down the outcomes of their discussion which they later presented to all the workshop participants. The presentations were followed by an open discussion.

The strategy workshop provided the participants with an opportunity to better understand the study and how it was intended for use in the two institutions. This understanding encouraged input into the deliberations that followed in the workshop.

3.6 SAMPLING TECHNIQUE

Purposeful (purposive) sampling as defined by Baker (1988) is sampling that is done by a researcher to choose participants after taking into account the most desired characteristics to recruit a sample of respondents. According to Cohen, Manion and Morrison (2007), purposive sampling includes the selection of cases which show characteristics which meet the specific needs of the research. It is used "in order to discover, understand, and gain insights ..." (Merriam, 2001. P.61) about the phenomenon under study. As explained in Chapter 1, in this study the suitable cases were those involving community radio practice, with a history of working on environment and sustainability issues, and the Livingstone Museum. In these cases the suitable respondents were community radio broadcasters (producers, presenters and administrators), community radio listeners from radio listener clubs, and museum educators, researchers and administrators. They were selected on the basis of what they do in relation to either the radio or the museum as the case may be. The identified respondents expressed willingness to take part in the study and to have the interviews audio-recorded. This acceptance was confirmed by the signing of a consent form (see appendix 7).

3.7   DATA ANALYSIS

As part of my data management, I transcribed all the interviews to create documents which made it easier to carryout content analysis (Rakotsoane & Rakotsoane, 2006). "The essence of content analysis is identifying *substantive* statements – statements that really say something" (Gillham, 2000. p. 71). I categorised the data into limited themes through a process of coding (Rakotsoane & Rakotsoane, 2006. p. 25) (see appendix 1). Coding is the core of qualitative analysis and includes the identification of categories and themes and their refinement (Ary et al., 2006, p. 492). The process of coding could not be undertaken in the field due to limitations of time. To some extent, this affected the possible adjustments I could have made in the later stages of data generation. However, themes were identified based on the entire data generated across the cases studied. This therefore implies that the data was analysed thematically.

Bassey (1999) advises that case study work generates a lot of raw data which has to be organised to draw meaningful statements through data analysis that condenses it. In this study I read and re-read the data from interviews, documents, workshop and my field notes, and formulated analytical memos (see appendices 2 and 3) that I felt captured the meaning of the data with respect to the research questions. I used coloured highlighters to assign data items, which were coded, to themes. I coded the four workshop groups as SG-1, SG-2, SG-3 and SG-4. Through coding I recognised one of the ethical dimensions to keep the identity of the resource persons private.

The process of re-reading allowed me to re-phrase and merge, sometimes completely rejecting earlier statements. Using the analytical memos, I generated analytical statements that were" tested against the data" (Bassey, 1999, p. 71; see also Section.5.2)

The process of identifying themes kept changing as the issues became more and more clear over time. Some earlier themes had to be merged while new ones in some cases had to be created. This process allowed for smooth management of what would otherwise have been overwhelming data.

3.8   ETHICAL CONSIDERATIONS

Ethics are an important aspect of qualitative interpretive research. In this research I employed the advice from Bassey (1999) to recognise the initial ownership of the data by the participants and their entitlement to dignity and privacy. The participants have the right to self-determination (Cohen, Manion, & Morrison, 2007). I sought the permission of the institutions and people who were involved in the study, and stressed that they had the right to either take part in the research or not. I also indicated that as participants they had the right to opt out of the research at any time should they feel uncomfortable. Further, I explained that the information obtained in this exercise shall be used for research purposes focussing on issues, and that names of the participants would not be revealed. I assured the participants that the entire research process is not expected to cause any harm to any of the participating institutions and individuals. Through this process I obtained what is referred to as informed consent.

Informed consent refers to the " knowing consent of individuals to participate as an exercise of their choice, free from any element of fraud, deceit, duress, or similar unfair inducement or manipulation" (Berg, 2004. p. 64). In this study letters were written to the Directors and Station Managers of the institutions earmarked for study (three radio stations, one non-governmental organisation and a museum), following the initial telephone contacts with the same institutions. The letter also explained that the potential research participants were free to take part or not. I further explained that the identity of participants would be withheld.

During the visits to the study sites for data collection, I explained the research to each selected participant and indicated that they were free to either take part or not. In this way I respected their democratic right to choose whether to give information or not (Bassey, 1999). All the participants accepted to take part in the study.

As a way to ensure that I captured the views of the respondents correctly, I showed the interview scripts to them. In this way I confirmed that what I captured was a true representation of what they meant in the interview (Bassey, 1999).

3.9   VALIDITY AND TRUSTWORTHINESS

As indicated above, the data collection involved document analysis and interviews. The use of two or more methods of data collection in the study of some aspect of human behaviour is referred to as triangulation (Cohen, et al., 2000). Similarly, Miles and Huberman (1994) describe triangulation as " a way to get to the findings in the first place, by seeing or hearing multiple instances of it from different sources by different methods and by squaring the findings with others it needs to be squared with" (p. 267). Triangulation provides an opportunity to look at the same issue from different positions, which enhances its trustworthiness. As Stake (2000) observes "triangulation has been generally considered a process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or interpretation" (p. 443). It reduces the likelihood of misinterpretation of the collected data.

I employed methodological triangulation where I used document analysis and interviews to increase confidence in my interpretation of the data (Stake, 1995). In addition, each transcription of the interview was verified by the interviewee in a process referred to as 'member checking' (*ibid*). A draft of the preliminary findings was then presented to the Livingstone Museum and the Radio Musi-o-tunya staff that participated in the research (see Section 3.5.3). This provided an opportunity for the participants to make comments and suggestions about the findings. In this way I attended to the issue of accuracy and validity of the data collected.

With regard to the community radio practices, the use of data from three radio stations addressing the same issue of practice further provided for the reliability of the data generated. In saying this, I fully recognise the possibility of the different settings in which the radio stations operate influencing the practices differently. However, the basic approaches to the educational practices were the focus of the study.

The other challenge to validity of the data arises because I have worked with both the Livingstone Museum and Radio Musi-o-tunya. The use of more than one method is one way I attempted to take care of validity. I also strived to work professionally and reflexively as a researcher to minimise bias in my data collection and interpretation.

3.10   CONCLUDING SUMMARY

In this chapter I have described the orientation of the study and the methods used to generate the data. The main method was through face-to-face interviews. In addition I have explained how I took care of issues of validity and trustworthiness of the study data. I have also explained how the samples were selected and the reasons for choosing both the study sites and the study participants. In addition, I have highlighted the themes identified during the study. In the following chapter I present the data generated from the participating institutions, starting with the radio stations and then the Livingstone Museum. The data from community radio stations is presented based on themes across cases.

CHAPTER 4

COMMUNITY RADIO PRACTICES AND MUSEUM EDUCATION

4.1   INTRODUCTION

In this chapter I present evidence from three community radio stations and the Livingstone Museum about community radio practices and museum education. As indicated in the previous chapter, the data is based on interviews and analysis of documents. The presentation is arranged in three main sections. The first section (Section 4.2) presents evidence in relation to community radio education practices while the second (Section 4.3) focuses on Livingstone Museum education practices. The presentation in Section 4.2 covers the following areas:

- The format and design of education programmes on radio (see Section 4.2.1)
- How radio stations facilitate community learning (see Section 4.2.2)
- Programme production in community radio (see Section 4.2.3)
- Working with questions in educational radio programmes (see Section 4.2.4)
- How radio works with drama and stories in educational programmes (see Section 4.2.5)
- How learning through Radio Listener Clubs (RLCs) takes place (see Section 4.2.6)
- Programme advertising (see Section 4.2.7)
- Evidence of learning through community radio (see Section 4.2.8)
- Challenges in community radio educational programming (see Section 4.2.10).

The presentation in Section 4.3 covers the following:

- Museum education through exhibitions (see Section 4.3.1)
- Lectures/talks as an approach to museum education (see Section 4.3.3)
- Outreach education activities in the museum (see Section 4.3.4)
- How the museum has used radio in the past (see Section 4.3.5)
- Challenges in museum education (see Section 4.3.6)

This arrangement of the data is based on the analytical categories used, as reflected in Table 3.1 (see also Sections 3.5 & 3.7)

The presentation of the evidence in this way served to inform a workshop (see Section 4.4) on museum education and the educational use of radio. The workshop involved a group of staff from the Livingstone Museum and Radio Musi-o-tunya. This was conducted to inform the study and is reported in Section 4.4 and discussed in Chapter 5.

4.2   EDUCATION THROUGH RADIO

The investigation into the design and format of radio programmes (this section) was aimed at understanding the education practices that are used in community radio station programming with a view to understanding how museum education (see Section 4.3) could use radio. I represent the evidence related to this aspect through drawing on the data from the three community radio stations. The first Section (4.2.1) represents data on programme format and design for each of the radio stations studied. The data includes evidence from at least one programme per radio station, with an environment and sustainability focus (as described in Chapter 3).

4.2.1   Educational radio programme design and format in community radio stations

4.2.1.1 Radio Musi-o-tunya

Radio Musi-o-tunya has programming that focuses on educating the community (RM-3; RM-4). When asked about whether Radio Musi-o-tunya had education programmes, one of the respondents explained: "we [Radio Musi-o-tunya] are here to educate, inform and entertain so we want to cater for everyone. So in education I would say all the programmes are actually educative" (RM-3). This position was also supported by respondent RM-4 who said the radio station aims at bringing about sustainable development in the community it serves.

Although all programming at Radio Musi-o-tunya is considered as being educational the education programme of interest in this study was the 'Our Family' radio programme whose focus is educating the public on matters of orphans and vulnerable children

(OVCs) and widows. Some of the components of this programme focus entirely on school going children, while others target the general community. The programme is designed using a magazine format, a practice that involves several different segments within one programme. Under the *"Our Family" programme* each topic is addressed using three different but related programme approaches. One of the production team members explained: "First we have a drama on Monday 19:30 [hrs], then on Tuesday there is a [radio] lesson for the children which takes place in class, then on Friday there is a feedback from the community" (RM-6). Two other producers expanded on the interrelatedness of the three components of the *Our Family* radio programme as follows:

> we have a radio drama which is listened to by the community – the parents, the guardians, the care-givers and also the children - and then once they listened to the radio drama the same topic is put in a school programme, in an Interactive Radio Instruction [IRI] programme whereby they listen to the same topic at school (RM-2).

> The third programme is a feedback programme. That programme, it comes as feedback because of the Monday and Tuesday one. So when the parents listen on Monday with their children and then Tuesday children learn in class more details about the same subject that was being discussed in the drama on Monday; Friday, now we get experts to explain exactly what is supposed to happen on whatever issue it was, be it Will writing, be it mother to child relationship in their house, … (RM-3).

In this three-way system of programming, the drama sets the learning context for discussion. It is aimed at depicting true life situations and then creating suspense in order to generate debate among the listeners (RM-1; RM-2).

The Interactive Radio Instruction component targets schools and ensures interaction among the learners. One of the producers commented that: "because it is interactive we ensure that it has a lot of segments for pupils interacting. ... but there is a before component, meaning that the pupils are forewarned ... with information on the topic at hand" (RM-2). Under the 'before broadcast' component the schoolteacher asks one of the learners to summarise the drama that was broadcast the previous day (RM-D6) which the pupils would have listened to at home with the rest of the family. In this way the pupils

pay attention to the drama lessons as they are expected to report to the teacher what they have learned in the drama.

In the IRI lessons there is coordination between the radio teacher and the class teacher. "During the broadcast there will be interactive sessions where the [radio] teacher says 'ask pupils to do this or ask pupils to come in front or ask questions to the pupils'" (RM-2). As one of the respondents explained, the teacher further assists the learners to understand the lesson:

> If they [learners] didn't understand whatever was happening in the drama the teacher will help them understand. So it is a kind of programme where instructions are given on radio and then the teacher is there to guide the class on what to do (RM-3).

Under the *Our Family* programme, Radio Musi-o-tunya is working with selected government and community schools.

> These schools have been given teachers' guide ... . The school based programme is running on radio and the teacher is following the instruction and he [she] … actually becomes a mentor, following the instructions in the teacher's guide and ensuring that the programme goes to the children and they understand ... (RM-1).

In designing the educational radio programmes, the issues of relevance and timing are equally considered. The radio can obtain already produced programmes to broadcast. However, in this case the radio produces its own programmes, as two respondents explained: " we come up with our own programme to suit the context so that we don't just talk from nowhere" (RM-4). "So the timing will actually come in as in what time do you think a child is going to sit down and listen to such a programme, depending on what a programme is" (RM-3). Each of the three components of the *Our Family* radio programme is broadcast once every week on specific days and times. The radio drama is broadcast in the early evenings when parents and children are expected to be home (RM-3; RM-6; RM-7; RM-9).

4.2.1.2 Dzimwe Community Radio

Education programming at Dzimwe Community Radio takes a look at various aspects of community life, with the "main objective of developing people especially the people from rural areas - talking of those who are doing farming, and those who have no chances of employment and some access to development" (RDI-3). Similarly another producer, RDI-2, explained that the idea behind the setting up of Dzimwe Community Radio was:

> first with the purpose of making people communicate on the issues pertaining to the environment and the alternative livelihood strategies other than depending much on natural environment, and looking at ways on how they can sustainably live within the park [Lake Malawi National Park] (RDI-2).

Even with this background the radio station has a wide range of programmes such as programmes on encouraging girls' education, health issues, environmental conservation and economic issues (RDI-1). The programme of interest reported here is the one dealing with Environmental Conservation, locally referred to as *Tisamale Chilengedwe"* [let us take care of natural resources]. This programme is aimed at "encouraging people to be responsible of [for] taking care of the environment" (RDI-1).

The Environmental Conservation programme at Dzimwe Community Radio also uses a magazine format where different segments about a particular subject are presented with paced segments so that information is not too intense and complex to be understood. One of the producers, RDI-1, described the format as follows:

> The content was 'magazine'. ... . The aim was to give … for example you can produce a 30 minutes programme; you can put it maybe as a documentary ... . But it was like people who are staying in Lake Malawi National Park they are people from really typical communities. So you know you cannot talk for 30 minutes, or an expert in environmental, he/she cannot talk for 30 minutes. That's why it was designed to be a magazine, maybe to add in some radio drama or poems or songs just to give people a chance of, how can I say, …people they have a break instead of just saying, … this and this, and that … that's why it was designed to be a magazine programme (RDI-1).

The conservation issues for discussion are mainly those raised by the communities within the Radio's coverage area. The topics thus engage the community listeners and include responses from people with subject specific expertise, as one of the producers explained:

what we do is that we get people out there, and then we interview them, how they understand the natural resources; what they are doing to preserve it; and then we balance the information with something from the natural resources personnel, those who are working with the government so that they can give us their side of the story, then we air on the radio (RDI-3).

The use of the magazine approach with involvement of the listeners was further described by another producer, RDI-1, as follows:

so it was communities at first, after communities, it's like drama, if there is no drama we were putting a poem, if there is no poem we were putting a song. After a song we introduce, I can say, an expert to the topic. For example you are doing a programme on *Mbuna* fish (Iodotropheus sp.), so we take an expert for that to explain more, like to interact with people. People they have experience on that but an expert comes in to explain more about the topic (RDI-1).

The poems and songs used in the programmes are related to the subject of the programme. One of the respondents described a scenario as follows: "for example we are talking of '*Mibbawa*' tree *(Khaya nyasica)*; We are encouraging people not to cut, if they cut, they have to request them. So we need to have a poem for example related to that information of '*Mibbawa*' (*Khaya nyasica*) (RDI-1). These poems and songs used in the programming are generated and performed by the community served by the radio. One of the ways used to identify people to perform the poems or drama is through the working relationship with youth and other clubs. One producer explained this working relationship as follows:

It's like we have also 'fun clubs'. They are youth clubs, ... from those fun clubs we have people who are talented to do drama, poems, … . So we take advantage of those people. For example, we want to do a programme, we just consult 'can you do this drama for us; can you do this type of ... .' Yes, we give them the subject (RDI-1).

In this way the community radio programmes incorporate local knowledge and experiences in the programming.

The Environmental Education programme on Dzimwe Community Radio is broadcast once every week, on a specific day, in the afternoon when farmers are expected to have knocked off from their fields. This allows for the Radio Listener Club (see Sections 2.7.2) members to attend the listening sessions and contribute to the discussions.

4.2.1.3 Chikuni Community Radio

Chikuni Community Radio has several education programmes addressing issues of mainstream education, agriculture, HIV and AIDS, and environmental issues. These programmes take different formats. For example there are programmes that are undertaken by way of interviews featuring experts (RC-1), others use the Interactive Radio Instruction (IRI) format (RC-1; RC-2; RC-4; see Section 2.7.1), while some programmes strictly use stories as the approach to education (RC-1). During data generation at Chikuni Community Radio, it was difficult to focus on one specific radio programme to inform this study. As such I considered the various educational programmes undertaken and also the role of the Radio Listener Clubs in educational radio programming. On educational programming, one of the respondents explained the approach as follows:

> well, I think the radio is all education, of course we have entertainment and news and things like that. ... that is why we have agriculture programmes, … that would be interesting for the farmers. We have medical information which again would be interesting to some people and not to others. ... So there is a lot of education going on through programmes and I think that is what we are trying to do; that put as much information in a sense, in all sorts of areas- HIV, medical stuff, we have radio school, we have agriculture, we have civic programmes … (RC-3).

The educational role of radio was also expanded on by other producers (RC-2; RC-4). In describing the educational programmes undertaken at Chikuni Community Radio the producers stated that there was one programme that was an "Interactive Radio Instruction, commonly known as *Taonga Market'* which is broadcast every week-day... " (RC-2) in partnership with the Ministry of Education (RC-1). This programme operates in relation to the mainstream schools but targeting people who have no access to mainstream government schools (RC-1; RC- 2; RC- 4). The programmes are undertaken

working with mentors. Two of the respondents explained the learning phases involved in the *Taonga* programme and how the mentors are involved, as follows:

> Our lessons are in three phases. The first phase the mentor has to be with the children at least for thirty minutes to prepare for the coming lesson and sometimes to, maybe to review what was done in the previous lesson. We call that 'before broadcasting'. The second phase is the actual broadcasting itself, when the radio teacher is teaching and the mentor is there with the children, doing the radio activities. The third phase we call it the 'after broadcasting'. Away from the broadcasting itself, they have to do the activities that the radio teacher had requested them to do after the broadcasting (RC-4).

> we have at the moment about 16 IRI centres. At each station there are children in different grades. We have mentors there. So they learn through the radio. We broadcast the lessons, they have the radio teacher there who explains to the children throughout the lesson, and after the lesson again they continue learning up to the time that they have to go home (RC-2).

Apart from the IRI radio programme, there is a programme that looks at issues of the environment. This programme is undertaken in partnership with the Environmental Council of Zambia (ECZ), a statutory body regulating environmental issues in Zambia, and it focuses on Invasive Alien Species. As one of the producers explained, this environmental programme is "intended to sensitise the community on the Invasive Alien Species which are good looking but at the end of the day they invade the local vegetation ..." (RC-1). The initial series of the programme were conducted using interviews, as one of the producers explained: "we would have interviews with them [experts] and then they explain the issues on that particular subject. ... So the initial programme format was the Environmental Council of Zambia (ECZ) would get experts from their departments" (RC-1). And then "later on we decided to incorporate a drama so that people can easily relate to the issues, because drama portrays life issues, the way it can be in real life" (RC-1). This approach, at the time of the study, was being reviewed to enhance the next series of the programme that was about to start running on radio. There were changes planned and respondent RC-1 explained the new programme: "this time it is a combination of drama, studio discussion, field recordings, [and] documentaries" (RC-1).

The other educational radio programme at Chikuni Community Radio is locally called *"Bumwi buzuba"* [One day...]. This programme *"...* is a series which looks at different proverbs in Tonga language, explaining them by way of formulating stories that people would relate to and understand the proverb much, much better" (RC-1). The story is interspaced with promotional messages to break the monotony. The story sets the context for the proverb being explained. Each programme looks at one particular proverb per week.

While most educational programmes at Chikuni Community Radio are broadcast once per week, some programmes have been provided with time for a repeat broadcast within the week. The provision for repeat of programmes came about as a result of listeners demanding that such programmes be repeated. Initially the programmes were repeated on the same time slot the following week, which in some cases affected the overall duration of the programme plan. One of the producers explained as follows:

> sometimes what we do is … , because some issues are going by the time, the weather and things like that, so if the timing of the content will not be appropriate if we do a repeat broadcast. What we normally do is, instead of doing a repeat broadcast on that slot, we find another slot which is free and promote it to say 'ok, this programme will be repeated on such such a day, so if you want to listen to it, make sure you don't miss (RC-1).

> For some programmes that are really good like *'Butonga Bwasanduka'* [Tonga tradition has changed], what we have done, because people were constantly requesting for repeat broadcast, we have two slots now. The first one is on Saturday, 20:00hrs ... then we repeat the Saturday programme on Tuesday at 10:00hrs, so that those who miss on Saturday can have a chance to listen to it on Tuesday. Then even like the *Hamaleke* drama, it comes on Friday and a repeat broadcast on Thursday. .... *'Bumwi buzuba'* [looking at proverbs] it comes on Tuesday at 20:00hrs then the repeat broadcast comes on Sunday at 14:15hrs. .... So we thought it twice that OK, instead of repeating on the same slot let's find another slot where we will be slotting those repeat broadcast" (RC-1).

The use of repeat broadcast enhances the learning experience of the listeners and is also able to teach many listeners who would otherwise have missed the broadcast.

 In this section I have represented data on the format and design of some of the radio programmes at each of the selected radio stations. While the overall format appears to be

magazine, some of the programme segments involve interviews and use of specialist expertise both in the field and in the studio. In the next section I present data on community radio practices across the three radio stations in order to understand educational processes.

4.2.2 How community radio stations facilitate community learning through radio

Community radio broadcasting aims at effectively serving the target audience, the community. All the radio stations covered in this study have a large rural-based audience, primarily among the poorer communities. These radio stations recognise the challenge of community access to radio programming. As such communities have been organised into Radio Listener Clubs to facilitate and encourage listening to the radio.

To facilitate access to radio programmes, and hence bring about learning through radio, the radio stations distributed radio sets to identified community groups within the coverage areas. At Dzimwe Community Radio the listening groups were provided with radio sets that have a provision for recording and playing tapes (RDI-1). These are four-battery recordable radios (RDI-2) that were acquired through a partnership with donors. Nonetheless, the use of these radio sets also poses the challenge of finding money to replace the batteries. The communities are currently contributing funds towards the purchase of batteries.

However, the situation is different at both Radio Musi-o-tunya and Chikuni Community Radio stations. One of the producers explained that the Radio Listener Clubs " have radio sets in the communities; solar powered radio sets that are provided for by either the radio station or the Ministry of Education ..." (RC-1). Another producer explained how Radio Musi-o-tunya is facilitating community access to radio programming as follows:

> radio sets were sourced and these are solar-windup radios, [with] no need for batteries and were distributed in listener groups. Because they were not enough to be given to each household in the coverage area, the people within the coverage area of the radio station, Musi-o-tunya here, were asked to form groups, and these groups are called ... listener groups (RM-1).

Commenting on the same issue one of the respondents at Chikuni Community Radio stated that: "the communities have radios given to them by USAID through the Ministry of Education. So each centre should have two radios. These are solar wind up radios" (RC-4). This was also supported by another respondent from a Radio Listener Club who expressed delight about the radio sets: "these radios do not use batteries. They use solar, and they are also wind-up radios. They are very good, especially for us in the villages, they assist us a lot" (RM-7).

Apart from Radio Listener Clubs, some government and community schools were also provided with radio sets "so that they can listen to the programmes at the right time" (RM-3). In addition to the distribution of radio sets, the various communities under all the studied radio stations were trained in management of Radio Listener Clubs (RC-1; RC-2; RC-3; RM-1; RM-2; RDI-1). It is from such training that they learned how to coordinate the radio listening and discussion process.

In the following section I present data on how programmes are produced in community radio stations. I focus on what is involved in producing a radio programme.

4.2.3   Programme production in community radio

Community participation in programme production takes various but related forms from one community radio station to another. The approaches include mainly interviews and group discussions. The issues covered in the programmes are determined sometimes by the radio stations, or the communities, and at other times by the programme sponsors. Whatever the case, the community radio stations strive to address community needs. One of the respondents (RM-4) commented that radio programmes need to be at the level of the community for the audience to relate to them and understand the content. She stated that "the people don't need programmes that are too 'high', they need programmes that they feel they are part and parcel of that programme" (RM-4). In this regard, community radio stations strive to address community needs and expectations in their programming. While efforts can be made to come up with radio programmes intended for the level of the target community, identifying what is relevant for the community members without their involvement seems to be a challenge.

From the interviews I noted that Radio Musi-o-tunya still feels people are not adequately utilising its services and opportunities offered. This can be seen from the following statement by one of the respondents from the radio station:

> What we need to do is first of all to sensitise them [community], because sometimes they [are] scared even of coming here. They always feel radio station is like the way they used to look at ZNBC [National radio]. They don't know that [community] radio station is them, it is their voice which has to be heard (RM-4).

However, the radio engages the listeners by asking them to suggest programme ideas to be transmitted on radio (RM-3; RM-D3). Listeners are also requested to participate in programme production. The participation in the programmes is voluntary and includes both adults and children. The issue of voluntary participation was raised by another producer who, in reference to children participation said: "we actually don't force the children to come and feature on these programmes. We ask them and willingly they do come actually" (RM-3).

At Chikuni Community Radio, the issues covered in the initial Environmental Conservation programme were identified by the sponsors, The Environmental Council of Zambia (ECZ), who also identified the professionals to be featured on the radio interviews (see Section 4.2.1.3). The producers noted that the interview approach alone was inadequate to bring about community learning, and they later on decided to incorporate a drama (see Section 4.2.1.3).

The situation is similar at Radio Musi-o-tunya and Dzimwe Community Radio Station. There are some programmes whose content and resource persons are determined by the programme sponsors. However, at Radio Musi-o-tunya some of the programmes like the *Our Family* drama have been adjusted to take into account the local context. One of the producers explained that "the drama scripts are written by professional writers hired to do these dramas, but the concept is given to them" (RM-1). In relation to this programme, another respondent explained that: "we come up with our own programme to suit the context so that we don't just talk from nowhere" (RM-4). The initial programmes were recorded by the sponsors and simply distributed to the radio station for broadcast.

Currently local drama groups have been contracted to perform the drama. However, while the drama, at the time of study was locally produced, the IRI programmes which are produced for a national audience were still externally produced, by the sponsors.

In some cases programme producers undertake field recordings of identified issues and special events. The situation at Dzimwe was described by one of the producers as follows:

> We also have outside the studio programmes, we go out and record then we come on air and present to the people. When we have functions such as education days, … we go there and then we record, we come [and broadcast] as special programmes (RDI-3).

Apart from field recorded programmes by producers the Radio Listener Clubs record programmes. The availability of recording equipment has provided opportunities to the communities, through Radio Listener Clubs, to identify issues and record their concerns (RC-1; RC-3; RDI-1; RDI-2). The programmes can be responses to other programmes broadcast or they may be totally new issues or concerns.

Chikuni Community Radio has several Radio Listener Clubs that were trained in programme production (RC-1; RC-2; RC-3). These clubs identify issues in the communities and record the discussions for broadcasting. The radio producers simply assist with the technical aspect and identifying other concerned parties to the issues raised. One of the producers explained how the Radio Listener Clubs are able to take part in radio programming:

> we trained them on how to do radio programmes; and how to come up with ideas; how to materialise those ideas into a good radio programme so that besides the programmes that we produce as professionals, they also produce programmes from their community with issues that affect them (RC-1).

At Dzimwe Community Radio one of the producers explained how the communities use radio to address community problems as follows:

> what they [listeners] do is when they have that particular problem, ... they gather at a point and then they record the issues that they have .... we will listen [to] the

issues that have been presented and then we,... identify the right people to be approached with the problem that the communities have presented. And we balance that particular project up; whether that means providing a remedy to the problems or just feedback or whatever, we do that and then we air that programme back to the communities as feedback (RDI-2).

Another producer supported the practice of addressing issues raised by the community as follows: "we do not only air on the knowledge of our own, ... we get the people and then we ask them what is happening. They tell us then we air" (RDI-3). "The issues are raised within the community itself by the communities themselves and then they present those issues forward to the radio" (RDI-2). In this case the role of the community is to provide "the issues, presenting the problems as the community are facing" (RDI-2). However, there are also instances when one part of the community can use radio to provide solutions or suggestions to issues raised by another. One of the producers from Dzimwe explained this aspect:

> you find that some communities may know some solutions to the problems that other people may have. But because maybe they don't, they can't communicate, you find that some other people are disadvantaged; they may still have those problems while others may, you know, celebrate having the solution (RDI-2).

Therefore radio provides an opportunity for communities to communicate and share experiences, thus creating a network of learning communities.

Sometimes the idea behind editing a programme is to understand whether it does conclusively address the issues raised. This understanding also allows for linking up the concerned parties to address the issues raised. At Dzimwe Community Radio station, one of the producers explained that the radio gets comments from the community and then balances up that information with that from other concerned parties, such as government officials and other technocrats (see Section 4.2.1.2). Similarly at Chikuni Community Radio one of the producers explained that the idea behind editing a community recorded programme is not to change anything but simply making sure that there is a flow of the discussion (RC-2).

The scenario is slightly different at Radio Musi-o-tunya. The Radio sets that were distributed to communities do not have a provision for recording programmes. As such the listeners only contribute to the recording of the programmes when a producer is with them. One of the programmes where the listeners contribute to the recording is the feedback programme following the *Our Family* programme. It was reported that in this programme various categories of people are featured, including the Radio Listener Clubs (RM-1; RM-3). The producer records the comments, questions, responses and concerns of the listeners, leaders and other professionals about the drama and the IRI programme. These are then broadcast as feedback programmes. However, the desire of the listeners is to be able to record programmes not only for broadcast but also for future replay within the community. One of the respondents commented on this issue as follows:

> sometimes we forget what we learn even if we write down. We request that maybe we could be provided with radios that can play tapes so that we can be recording the programme. We could be listening to the old programmes starting from the first, especially during the school holidays when the programmes are not being broadcast (RM-7).

The *Our Family* radio programme is broadcast during school terms, though selected repeat broadcasts are undertaken during the school holidays.

In the discussion above, I have presented how the radio stations being studied work with groups in programme production. I have also touched on the involvement of Radio Listener Clubs and what the producers do. In the following section I present evidence of how community radio stations work with questions in educational radio programming.

4.2.4   Working with questions in radio programming

Questions are an important aspect of community radio educational programming. These questions can either be from the production team as part of the production, or from the listeners. The data indicates that the use of questions alongside the drama is a significant factor in bringing about discussion, and hence social learning, within the Radio Listener Clubs and the community at large. The idea of discussing the programmes was commented on by several respondents (RM-1; RM-6; RM-8; RM-9; RC-5; RC-6; RD-2). One of the respondents at Radio Musi-o-tunya explained that "when they [RLCs] meet

they discuss the questions that are on the feedback form ... . The members take turns to discuss the questions and suggest the responses" (RM-9). Another respondent from a Radio Listener Club explained what happens when the club listens to the radio drama:

> normally when the programme starts you would find every member, every listener is very much paying attention, ... At the end of the programme you would find there are about five questions which we are supposed to answer, and everyone is going to participate (RM-8).

The discussions are organised in a manner where the questions are read and everyone in attendance is given an opportunity to contribute to what should be included in the feedback forms (RM-8). One of the respondents explained what happens as follows:

> when people finish listening to the programme ... they fill in the feedback form. They discuss what to write. It is not like one person decides what to write. People sit as a listener group and when the questions are read, they raise hands to respond to the questions, and the discussion goes on. They finally agree on what to write in response to the given questions (RM-9).

The drama is presented in such a way that it depicts controversies that are likely to be inherent in communities in order to raise questions and arouse interest for listeners to engage in debate (RM-1; RM-2). In addition, there are specific questions asked by the producer at the end of the drama that are meant for communities to discuss and respond to. In the case of the programme on writing a Will, following questions raised by the listeners, one of the producers of the programme at Radio Musi-o-tunya explained that "the feedback [programme] now came to explain how people can write Wills and what they should do when they write their Wills; who they should give?" (RM-1). In this case the community view is either supported or challenged by professional advice from experts.

Through the discussions that take place at the end of the radio programmes the community becomes engaged in identifying themselves with the issues presented in the programme, and in the process they raise questions or suggest solutions to such situations. "The community actually provides solutions ... they suggest solutions" (RM-1). In addition, the discussions allow for communities to identify actions to be taken

based on the lessons from the radio programmes. One of the respondents explained as follows: "after listening to the programme ... we discuss what we have learned from the programme ... then we discuss what we should do as a community with regard to the lesson for the day" (RM-10).

The idea of working with questions seems to have encouraged discussion among listener groups. The groups have become active participants in the programming. This participation is noticed through feedback information received through the mechanisms discussed in the later section (see Section 4.2.9). The participation further seems to be encouraged by the use of interactive methods. In the following section I represent data on the use of drama and stories in educational radio programming.

4.2.5 Radio education through drama and stories

Some of the education programmes at all the community radio stations studied use stories and drama. One of such programmes at Radio Musi-o-tunya is called *Our Family*. While the lessons in this programme are focussed on life skills, the context is set using drama and stories. One of the producers explained the use of drama as follows:

> we do programmes, that is, radio dramas that depict true life situations. And the purpose of those dramas is to bring in an issue to create a situation from a true life situation. ... The purpose of the dramas is actually to create suspense, questions and interest so that now they arouse interest in the people to listen to the actual situations from professionals ... (RM-1).

From the listeners' point of view one listener explained that "people enjoy listening to the Monday drama. Then they listen to the feedback about the Monday drama because that is when they now relate the drama to life in the villages around us" (RM-9). The same respondent explained further that both parents and children listen to the drama, adding that he believes that "once a child gets the story they do not forget the lesson; even the parent does not forget" (RM-9). He was happy with the way the programme is designed to use stories (RM-9).

Another respondent observed that the *Our Family* radio programme is easy to impact because it is dramatised (RM-2). Similarly a member of the production team echoed this

observation and added what the expected role of parents is, through listening to this education programme:

> and because we want the pupils to receive extra help from their parents and guardians, we decided to have a serial drama because it appeals to the radio listener groups more than the Interactive Radio Instruction programme which is meant explicitly for the pupils (RM-2).

The *Our Family* programme is meant for both adults and the young. The format of the programme is meant to provide a point of interaction between the learners, teachers, parents and guardians. The use of drama makes it easy for both parents and teachers to engage children in the learning process even when dealing with what would have ordinarily been considered as sensitive subjects (RM-1; RM-2). This is shown further in the explanation by another production team member:

> if they are talking about a topic on defilement ..., it becomes easier for the listeners at community level to relate to the young ones through a drama. And of course, when we go back to school, ... it becomes lighter if they listened to it already using drama, and it becomes easier for the teacher to interpret the message even when sometimes there might be one or two hard issues to talk to the pupils [about] (RM-2).

The above scenario was further supported by respondent RM-9, who is a teacher and coordinates the listener groups in his zone. He gave an explanation of how he used the radio lessons in his class:

> I remember at one time I was about to teach how learners can avoid certain places that can tempt them to behave badly. Luckily that day ... that was the topic they were discussing. So instead of me explaining to the children, the radio did the teaching of the learners. At the end of the lesson I just added a bit. That is the goodness of the radio. There are certain topics and things that as a teacher you do not find it easy to say it to the learners or children. But if the radio is talking about the same issue, we use that as the starting point and teaching becomes lighter (RM-9).

One of the programme producers also indicated that the use of radio allows older people to easily interact with the young ones in addressing certain perceived sensitive issues.

The respondent commented that "by allowing a radio drama we are exciting both the pupil in the community and the radio listener group members to be free with their pupils" (RM-2). The use of the drama was also commended by another respondent who said: "we also learn a lot on Radio Musi-o-tunya from stories [in the drama] by *"Hamaleke"* [character in the *Our Family* drama] because there are lessons like HIV, taking care of orphans, taking care of the sick ..." (RM-10), that are not easy to engage with. Another respondent who is a producer explained a scenario of how drama is used to address what are perceived to be sensitive subjects:

> you have a drama which is talking about VCT (Voluntary Counselling and Testing) for children. Now here is a child and by definition we mean a child who cannot make a decision to go and have himself or herself tested for HIV. ... So maybe in the drama the parents or the guardian will be forcing- 'no you, it is too much of you getting sick so we are taking [you] for testing for HIV ...'. Then the drama will end in suspense like that. So parents [listeners] will start asking questions –'but is it good for that to happen like that or is it against the law because that is supposed to be voluntary'? Then if those questions come to us [producers], which actually happens,... we go to counselling centres, hospitals, ... and find out ... . So those responses will come now from the professionals including the legal aspect of it. And those views are going to be broadcast again in the third programme [of the week] which is a feedback programme answering to those questions (RM-1).

This scenario shows how some of the topics broadcast can be difficult for families to handle. The use of the radio drama makes it simpler for communities to discuss issues that would otherwise be considered difficult to talk about, especially among people of different age groups. The radio provides an opportunity for experts and the community to engage each other. The professional advice can be obtained through lessons in the feedback programmes. The same respondent explained the purpose of the feedback programme as follows:

> This feedback programme answers the questions that have been raised in the first programme which is the drama and also some of the questions that might have been raised by the pupils at school. The feedback programme involves comments by parents about the programme or responses to questions raised after those people [listeners] listen to those programmes (RM-1).

The learning process by groups through radio is highly coordinated. Both the Radio Listener Club leaders and school IRI coordinators are guided on what to do when groups listen to the programmes. One respondent, a teacher explained that through the teacher's guide "the teacher is instructed what she/[he] should tell the learners, maybe coordinating the discussion, helping the learners to ... discuss what they know in relation with the lesson" (RM-6). "And once they [learners] go back home they listen to a talk-show [feedback] ... and in that talk-show we invite experts; we invite village experts, community experts, technocrats, just to talk about the topic at hand" (RM-2). The feedback programmes are coordinated through Radio Listener Clubs (see 4.2.9.3).

At Dzimwe Community Radio the Environmental Conservation programme has segments of poems, songs and drama (see also Section 4.2.1.2). These poems, songs and drama have messages that are linked to issues of environmental conservation (RDI-1). There is also another programme involving a drama which looks at issues of girls' education (RDI-3). In the drama girls are encouraged to take school work seriously through depiction of success stories of those that went to school.

At Chikuni Community Radio, there are also some programmes that incorporate drama and stories. For example one of the producers explained that the Environmental Conservation programme initially focussed on using interviews in the programme (see Section 4.2.1.3). To enhance the learning experience of the listeners even further, Chikuni Community Radio is working towards programming that has various components in a programme. One of the producers explained this approach, with regard to the new series of Environmental Conservation programme as follows:

> So even this year [2009] the ECZ has come again this time around with a 26 series of programmes, but this time it is a combination of drama, studio discussion, field recordings, documentaries. So we hope that this series will add a bit of value to the programming we have had because we have also tried to put a component of feedback from the community, ... by way of doing some promotions, some quizzes and things like that, to just gauge the general perceptions of the community on the environmental issues (RC-1).

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This was also commented on by another producer, who stated as follows: "we ran that [ECZ programme] twice, we are running the new one with a sort of soap opera in it. So we will see how it goes" (RC-3).

From the above, the use of drama and stories in educational radio programming was emphasised by all the radio stations under study. Community radio provides for communication between the producers and the listeners, and the views and observations of the listeners are considered and addressed in the succeeding programmes. It also appears that the idea of using drama is supported by the expectation that lessons through drama and stories have a high impact. However, not all the education programmes incorporate drama in the production. In the following section I present findings on how learning through Radio Listener Clubs takes place.

4.2.6   Learning through Radio Listener Clubs (RLCs)

Working with other partners, all the radio stations under study have established several Radio Listener Clubs within the broadcast area (see also Section 4.2.2). Most of these listener groups originated from already existing clubs within the communities, and the radio listening component was just incorporated into them. At Chikuni Community Radio one of the producers explained that the Radio Listener Clubs "were already existing clubs that were used under the Chikuni Parish Development Education Programme sometime back ... doing developmental work" (RC-1). At Dzimwe Community Radio the Radio Listener Clubs emerged from existing women's clubs (RDI-1; RDI-2). These Radio Listener Clubs serve as links between the radio and the community, for community engagement in radio programming.

Dzimwe Radio has a lot of listening clubs whose aim is to empower communities (RDI-1). One of the producers explained the emergence and existence of Radio Listener Clubs as follows:

> at Dzimwe Radio Station we wanted to involve much the communities. What we did initially was to establish community listening clubs (RDI-2).

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we thought that if we are to boost listenership then we as a radio station, ... are supposed to have an institutional framework which we can use for us to operate easier to reach out [to] the people in the rural areas (RDI-2).

The Radio Listener Clubs are intended to allow community participation in radio programming. This was commented on further by one of the producers from Dzimwe who stated that: "it's one way of boosting listenership ..." and "... it guides us also to make sure that whatever we are broadcasting is really community based" (RDI-2).

At Radio Musi-o-tunya one producer explained that under the *Our Family* programme "Radio Musi-o-tunya and the Education Development Centre have established listener groups, and ... there are over 125 listener groups within Livingstone, and ... the surrounding area" (RM-4). These groups are used by the radio for monitoring the impact of the radio programmes. Since these groups had to change their usual way of operating and become Radio Listener Clubs, training programmes were instituted. As one of the producers from Radio Musi-o-tunya explains: "these groups are trained to use wind-up radios; ... in short we teach them the basics of a community group: how to run a group; how to sustain a group; how to be multifunctional..." (RM-2). The training also looks at how the listener club should be managed to ensure that the radio programmes are effectively followed to bring about learning (RM-1; RM-2). The groups are advised on how to write suggestions and answer questions that come after listening to the programmes. (RM-D3). The idea of writing discussion points makes it easy for producers to follow up on observations made by the listeners.

4.2.7 Communities listen to advertised programmes

From the interviews conducted it is evident that while the Radio Listener Clubs have the radio sets all the time, they mainly listen to programmes that they have specifically been requested to as a group, by the radio station (RM-7; RM-9; RM-10; RC-5; RDI-2). At Radio Musi-o-tunya the *Our Family* radio programme has been widely publicised, and the Radio Listener Clubs are encouraged to listen to it. One of the respondents from a Radio Listener Club commented: "when it is time for the programme [*Our Family*] we call each other with neighbours and gather to listen to the programme on radio" (RM-10).

Another respondent stated that: "we usually meet and listen on Monday and Friday, then we choose another day to discuss so that we can fill in the feedback forms in line with the drama that was on radio" (RM-7). Monday and Tuesday are days when the *Our Family* radio drama and the Feedback programmes, respectively, are broadcast.

Another respondent, a teacher, explained what happens with regards to listening to the *Our Family* radio programme as follows:

> when we are dealing with '*Our Family*' for life skills, each listener group is expected to gather together that time when the programme is on, and then they listen to it together with the pupils from our school, who will have the same programme again in the mornings ... (RM-5).

At Dzimwe Community Radio one of the producers explained that programmes are advertised partly as a way of soliciting a wider variety of responses through feedback. He described the scenario as follows:

> there are some programmes that we look for feedback. So we advertise that particular programme to the communities and then we tell them ... to gather at the point where they can listen to that particular programme and analyse the important points of the programme and see if the issues that are presented in that particular programme are really the issues that they are facing at community level. So we also ask for feedback (RDI-2).

Similarly at Chikuni Community Radio one of the respondents from a Listener Club, when asked whether as a Radio Listener Club, they had listened to a programme on Environmental Conservation, he responded as follows:

> we have not yet listened to that programme as a Radio Listening group. We just listen to it as individuals when it is playing on radio; because as Radio Listener Club we have not yet been phoned [by the Chikuni Radio] to advise that we should listen to the programme as a group (RC-5).

This scenario indicates that for programmes that Radio Listener Clubs have not been advised to listen to, people listen as individuals. The practice of advertising programmes was also highlighted by one of the producers from Chikuni Radio. In reference to repeat

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programmes, he stated that if there are special programmes that the radio station would like the listeners to pay particular attention to, those programmes are promoted (advertised) on radio (RC-1). From these observations it appears that listening to radio as a group depends largely on what the radio producers have advised the communities.

4.2.8   Does learning through radio really take place?

The radio stations under study reported that many of the listeners practice what is taught on radio. At Dzimwe Community Radio, one of the producers commented that after the environmental conservation programme that discussed the benefits of conserving trees some listeners got involved in tree planting. He described the situation as follows:

> people are also practicing what we do on the radio. When we are talking …
> something concerning the trees, you go out there then you find people are saying
> 'we are doing this because we are following your programme. We are even
> planting the trees, … we are now making sure that we are caring [for] the trees,
> we are not cutting trees carelessly so that we may … have these trees tomorrow
> and in the future' (RDI-3).

In programmes that target the general community, it is not easy to ascertain to what extent the resulting action was influenced by the radio programme. However, this is easier with more formalised learning interactions such as the Radio Schools (Taonga) under Chikuni Community Radio. The learners, though learning through radio, use the same syllabus as the mainstream school system (RC-2; RC-4). They eventually write the same government examinations with other government schools. The performance of these learners is one indicator that indeed learning takes place through radio. One of the producers explained that the Radio Schools have produced above a 90% pass rate in centres that have had grade 7 pupils (RC-1). For instance, several centres under Chikuni Radio programmes recorded 100% pass in the 2008 grade 7 examinations (Chikuni Parish 2008 IRI Report, p. 8). Another producer stated as follows: "last year [2008] we had about 162 [learners] that sat for grade 7, and out of that number 132 made it to grade 8" (RC-2), representing 81% progression rate.

For non school-based programmes the evidence of learning is noted through the questions raised by the community, and actions taken in the community. When commenting about

some of the programmes that have significantly benefited the listeners, several of the respondents at Radio Musi-o-tunya indicated that the subject of property inheritance ('property grabbing') by relatives upon the death of a relative was highly rated by the listeners. The subject came about because many tribal groupings in Zambia have been involved in issues of inheriting property when a relative dies. In the current situation where many people are dying of HIV and AIDS, there has been an increase in the number of orphans who, if the practice of inheriting relatives' property continues, would suffer more in the absence of parents. But what came out of the learning through radio on this subject? One of the respondents explained as follows:

> in our local setup whenever someone dies, close relatives would do away with children. They will just grab property and then they go. But this time with this programme, at least people have been taught about how to go about a Will. They [are] able at least to leave something which can guide in the way property should be shared among members (RM-5).

The subject of writing a Will and taking care of orphans was taught through the radio drama, and also through the school-based interactive programme. The programmes are designed in such a way that they urge action-taking by the listeners. One of the respondents, a teacher, explained that after the radio programmes "learners are able to answer questions in relation to the topic, and as a result they will be able to encourage their parents like writing … a Will. They are encouraged to encourage their parents" (RM-6). Another respondent described one situation as follows:

> there is a pupil who is doing her grade 5 and was listening to one of the EDC [*Our Family*] programmes, and the parent in their house was very sick. Now because of listening to these programmes, and having the courage, ... this child is able to tell you what is wrong in their home. They will tell you '*my dad is sick and the problem is this. And I was talking to my father he has actually prepared a Will for us...*' (RM-3).

Following such observations a programme is arranged where the areas of interest to the community are addressed. The producers help identify the people and institutions that would have information to address the issues raised (RC-1; RDI-2; RM-1). In this case a legal practitioner would be featured on radio to explain the significance of a Will.

There were also other examples of action taken by communities after listening to radio programmes on Radio Musi-o-tunya. One of the respondents, a producer, explained how during radio checks it could be established whether learning has resulted into some action:

> you look at establishment of new structures. Just the other day I was in *Musokotwane* area where people are building a nursery school so that the foundation for the children's education is firmer now (RM-1).

> like three widows who have been pushing their children to [go] school unlike sending them for income generating activities. And like since the programme started one of the children that almost stopped school in grade seven is now in grade 9 [2009] - that is in Musokotwane (RM-1).

These issues were all discussed in the radio programmes at Radio Musi-o-tunya, and such action is considered by the radio to be a response to the programmes. It shows that lessons drawn from the radio programmes have resulted in communities realising that they can do a lot to alleviate the suffering in the community. It has also resulted in people coming together to work as a team, increasing the efficiency with which to work (EDC Our family first quarter 2008 report).

Apart from the learning that takes place as members of the community discuss the programme, communities teach each other through the programmes that are recorded in the communities. When one part of the community is featured on radio with their developmental story, the others may learn from the programme. One of the respondents explained the educational benefits accruing from listening to radio programmes featuring other communities as follows:

> Radio is doing a lot of good to the community. For example if people in *Katapazi* have an idea which we do not have here [in Libuyu, one of the residential areas], and then they talk about that on radio, as we listen to the radio we shall learn about that idea which we didn't know. Then we can also teach people about it in our community (RM-10).

When asked about whether learning indeed does take place through radio programmes, one of the producers from Chikuni Community Radio responded:

It does very much, because you know in our African set up we hardly read, or hardly find time to read and in most communities in the villages they don't know how to read, so they can't start from anywhere to read ... so radio has really been something that people have looked forward to because they are able to listen in the language that they understand and they don't have to sit and read. ... Because with radio you can have it on your back, on your head, just anywhere, you will be working in your field and listening to the programme and they will be teaching you (RC-1).

Another respondent supported the thought that learning through radio indeed does take place. When asked whether learning takes place through radio, with a lot of emphasis, he put it this way: "my brother this programme [*Our Family*] on Radio Musi-o-tunya, since it started, ... it has educated people, especially on life skills, providing knowledge such that as children grow up they have the necessary knowledge" (RM-9). Such comments showed that people value the education through radio.

4.2.9   Feedback mechanisms

Radio broadcasting works with the assumption that someone is listening to the messages being transmitted. One of the ways to monitor what is happening in the community as a result of the broadcast is to obtain feedback messages. All the three radio stations under study use several methods to obtain feedback from the listeners. The main methods reported are: field recordings, letters, and phone.

4.2.9.1 Feedback during field recording

Field recording as a method to capture feedback is where the programme producers go out in the community to conduct new programme recordings and at the same time obtain feedback about the previous programmes (RM-2; RM-6; RDI-3). As one of the producers working with Radio Listener Clubs explained:

The simplest feedback mechanism is that the radio listener groups provide feedback to the radio station, and the radio station staff members they go round ostensibly to collect feedback but to do their own recordings. ... the feedback can be audio where a producer goes into the radio listener group setup, records their messages, and of course they record extra messages, apart from the programme at hand they will record news and other issues, and then they incorporate the messages in future programmes (RM-2).

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At Dzimwe Community Radio one of the producers described this way of obtaining feedback as follows:

> Sometimes we receive feedback when I am out there, doing another programme. When you are recording during field recordings, some other people will tell me what is on the ground; what they think about the programme and way forward; how should we boost it ... (RDI-3).

The study also revealed that the feedback does not only come from Radio Listener Clubs. Anybody who listens to radio is free and invited to comment on the programming (see Sections 4.2.9.2 and 4.2.9.3).

4.2.9.2 Feedback by phone

The other method by which the community radio stations under study obtain feedback is through use of the phone. The radio stations have phone lines that are publicised through the programmes. Listeners are called upon to make comments with regard to what is transmitted on radio or any other community issue they wish to bring to the attention of the radio station and other listeners (RDI-2; RDI-3; RC-1; RC-3; RM-3).

Management at Chikuni Community Radio initially thought the rural community would not manage to communicate with the radio station by phone due to the cost involved. After introducing the phone the radio receives a lot of feedback from both the urban and rural dwellers. One of the producers explained the situation as follows:

> we get a lot of phone calls actually.... And it is amazing how many people actually join from the village. I was very surprised because at the beginning I was a bit afraid when we have a landline that you know it is not very equal, people from Monze [nearby town] and those who have land phones will call. ... It is a surprise to me because I thought of people who were very cautious to spend the K5, 000 [about US$1.20] on a phone call from the village. But they do, which really amazes me. So that means that they value their voice and things like that (RC-3).

Comments by phone can be made while the programme is being broadcast or thereafter. The listeners have an option to call or send a text message. Another respondent explained

how feedback is obtained as follows: "we use phone, they [listeners] just phone. Sometimes when the programme is on, they will just say we are listening" (RM-4). The use of the phone is quicker than letters or field visits, and can give an indication of how far the radio reaches in its coverage. In addition, there is an opportunity by the radio staff to ask for clarification on the comments, and also to offer immediate feedback to the caller.

4.2.9.3 Feedback through letters and feedback forms

Other listeners prefer to write letters to the radio station. Commenting on how the feedback is obtained, several respondents stated that apart from calling by phone, the listeners write letters to the radio station (RC-3; RC-1; RM-1; RM-2; RM-3;RDI-2). The letters are delivered in person or posted to the radio stations. In some cases the letters are sent through Radio Listener Club members (RC-1; RM-2) or news gatherers (RC-3; RM-4).

At Chikuni Community Radio, a specific feedback programme *"Bbokesi lyaambaula"* [the talking box] is used to obtain the views of the listeners on various aspects of radio programming. As one of the producers explained, "the purpose of "*Bbokesi lyaambaula"* is to respond to issues from the community that concern the radio station, the programming, music, and everything about the radio station" (RC-1). If issues raised by the listeners refer to a specific programme and require a detailed response, such issues are referred to the concerned programme producers who then respond in detail through their programmes. The producer explained with the following example:

> if some letters are mainly agriculture oriented I direct those questions to the producer of that programme and ask that producer to respond to those queries through a programme so that it is more detailed than where maybe I just have a minute or two to respond to them (RC-1).

The use of letters to communicate with radio stations is open to all the listeners.

The other method of obtaining feedback is through what are called feedback forms. Unlike the letters and phone messages the feedback forms are guided with specific questions (RM-2) that the groups are expected to respond to in relation to specific radio

programmes. At Radio Musi-o-tunya, these forms are issued to Radio Listener Clubs and schools that are participating in the Interactive Radio Instruction (IRI) and *Our Family* programmes. One producer explained how feedback with regard to these programmes is obtained:

> There is a questionnaire which was designed which is given to them so that every time they listen to the programme especially the drama which is intended to arouse interest and debate, when they listen to that there is a questionnaire which they fill in and then there is somewhere where they are supposed to discuss the issues raised in that drama (RM-1).

Commenting on the use of feedback forms, one respondent said "after listening and discussing the programme we then fill in the feedback form, which we send to the radio station so that they can know that we were listening and this is what we learned from the programme" (RM-10).

Feedback messages are received by community radio stations from Radio Listener Clubs as well as individual listeners. Based on the messages that come in as feedback, the producer can decide whether to simply find responses to the issues raised (RDI-3) or let the comments run as another programme to generate more comments from the rest of the community (RM-1; RM-2; RC-1).

The producers indicated that they are happy with the response from the community to the programming. One of the producers summarised it as follows: "So from the kind of feedback we have gotten from the community we actually know that such [educational] programmes are actually encouraged, and I think they are doing something to the community" (RM-3).

4.2.10 Challenges in community radio programming

4.2.10.1 Equipment

Educational radio programming demands quite a lot of time and resources to produce programmes. In some cases the segments of a programme have to be gathered from different locations on different days. Two of the radio stations under study reported having challenges with recording equipment (RM-3; RDI-1; RDI-2; RDI-3). The

challenge of equipment for community radio stations seems to be associated with the fact that some of them operate with basic broadcasting equipment. This was observed by one of the respondents at Dzimwe Community Radio, who with regard to the establishment of the radio station commented as follows:

> when the radio was coming in, it didn't come with full equipments as radio station. For example at first we had no computers for production up to 2004. So we were using I can say manual, … . So the first challenge is lack of equipment (RDI-1).

The challenge of equipment affects the quantity and quality of educational radio production. Another producer explained: "as Dzimwe Radio we sometimes fail to get people so that we can interview them because of transport and recording equipments" (RDI-3). Availability of recording equipment can greatly enhance the effectiveness of producers, and the quality of their production. However, the issue of inadequate equipment was not raised at Chikuni Community Radio as a hindrance to radio programming.

4.2.10.2 Funding

Educational programmes need to be interesting and interactive in one way or another. As a result the magazine format has been used as the main approach. However, this approach can be quite expensive. All the radio stations studied reported that some of the educational programmes had some kind of sponsorship. Where sponsorship was not available, the programming was negatively affected, as observed by one producer at Dzimwe Community Radio:

> A radio can do its best maybe to make that programme ... [for] communities to like it. But for the beginning, for the three years back, these programmes were nice because it was sponsored. For example we had WESM (Wildlife and Environmental Society of Malawi). So we had well produced programmes ... but as of now I can say the programme is facing a challenge of sponsorship especially, which contribute to the programme not to be well produced (RDI-1).

However, community radio stations have undertaken several educational programmes even without direct sponsorship by external organisations. One of the producers at

Chikuni Community Radio explained how such programmes have continued being broadcast on radio:

> They [the programmes] are an initiative of the radio station, and we feel even without direct sponsorship of the programmes, the programmes must run because ultimately it is the community that benefits and we are here to serve the community. So mainly on the educational programmes there hasn't been much luck of sponsorship (RC-1).

Similarly at Dzimwe, for sponsored programmes even when the funding cycle ends, the programmes are continued. One respondent explained:

> And I see an interested thing at our radio station level because Dzimwe Community Radio station, we do maintain programmes. ... Even we have no funding, we do maintain those programmes. So if funding come in we don't introduce another new programme. We avoid to confuse people. ... So if the funding comes in, we do use the same programme. If funding has phased out people they don't know that there were funding only that the programmes do change in their way of production (RDI-1).

While funding is important for effective educational programming, community radio stations in this study have taken the community needs as the primary focus of their programming. This approach creates a possibility of working in partnership with other organisations that may not necessarily afford to pay the full programme sponsorship fees.

4.2.10.3 Lack of adequately trained human resource

All the radio stations reported facing the challenge of limited personnel. The limitations include the limited numbers of producers as well as the lack of understanding of certain technical educational subjects by some producers. The observation of lack of technical knowledge on some subjects was made by a respondent at Dzimwe Community Radio station, who, when asked about the challenges at the radio station explained as follows:

> lack of training, because I see like, environmental programmes, they are like agriculture programmes; you cannot just wake up today and say I am doing programme on such, such, such. You need direction; ... . So as radio station also we lack training or even to be involved in issues of environment ... otherwise we lack training (RDI-1).

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Similarly, one producer at Chikuni Community Radio observed the need for organisations that work with radio stations in educational programmes to train producers on the technical aspects of the programme content:

> if I don't understand something I wouldn't do a programme no matter how much you pay me, because I have to understand, I have to feel knowledgeable to talk about certain issues other than just having a set of questions, and ask those questions for the sake of the monies and the likes, ah ah [no, no], because we would want to understand the issues, appreciate the issues and put ourselves in the shoes of the listeners and prompt for good information from the people ... (RC-1).

To address this challenge organisations are conducting 'in-house' training for radio producers. This was reported to have been the case at Chikuni Community Radio station with regard to the environmental conservation programme that was sponsored by the Environmental Council of Zambia (ECZ):

> The ECZ had to do a bit of training to help us understand the issues first, so that as we understand the issues it will be easier for us to produce programmes, even without their help we can be using our initiative and do the programmes (RC-1).

The lack of technical expertise is also due to the fact that many community radio stations work with community volunteers who in some cases only have basic academic and/ or professional training. These volunteers are then trained and provided with formal training opportunities at institutions of higher learning. Sadly, upon graduation some of them leave community radio stations after being offered better incentives by commercial and national radio stations. One scenario was described as follows:

> Like for example, Dzimwe has trained two personnel in production or in presentation. You find out that the same staff they are going out to join, for example national radios, leaving the gap again at community radio station level. So working in voluntary basis is also a challenge to us (RDI-1).

Apart from the challenge involving staff working at community radio stations, the producers also find it challenging to identify technically qualified and willing resource persons to feature on some of the programmes. A producer at Dzimwe Community Radio

identified this as a major challenge when she stated that: "the second one [challenge] which is also very critical is on people to give out information ... especially the experts. ... So lack of information on expertise on particular topic that you have selected is also a challenge" (RDI-1). This situation further creates opportunities for technical institutions to work in partnership with community radio stations.

4.3   LIVINGSTONE MUSEUM EDUCATION PRACTICE

The Livingstone Museum is a multi-disciplinary museum covering a wide range of study fields (see Chapter 1). Each of these museum sections has an aspect of education in their operations. However, all the education activities in the museum are coordinated by the Education Department, headed by the Education Officer.

In the following sections, I present evidence on how museum education is undertaken, and also on some of the challenges faced by the Livingstone Museum education programmes. I report on all the dimensions of museum education programmes, but I concentrate on the outreach programme because this forms the interface with the radio's use for education. I include all the other aspects of museum education because they inform the outreach activities and, the radio programme can bring people to engage with the museum as an education centre. I look at education through permanent and temporary exhibitions, lectures and outreach activities. In addition I look at how the museum has used radio in its past activities.

4.3.1   Museum education through permanent exhibitions

As briefly discussed in Chapters 1 and 2, education in museums takes various approaches in different settings. The main approach to museum education at Livingstone Museum is through permanent exhibitions within the museum building (MI-1; MI-2; MI-3). Under this approach selected museum collections are displayed within the galleries. Most of the displays are located inside 'cases' covered with glass. Alongside these collections are captions (labels) about the displayed item that are meant for the education of the museum visitor (MI-2; MI-3).

The content of the exhibition is developed by museum professionals in the various research sections (see Section 1.3), in collaboration with the Education Department. The researchers have a lot of collections in storage, and they select a few items to display for public viewing (MI-2). One of the respondents, a curator at the Livingstone Museum explained how the Natural History department takes part in museum education as follows:

> If we put animal specimens on display in our gallery, then we display them in a natural setting or environment to show how they live, and show how they breed or communicate or behave in different ways, and there will be explanations given in form of captions and these help to educate the community on the life of these animals or plants (MI-2).

Under the permanent exhibitions approach, visitors are shown objects that are displayed with captions. One of the respondents explained that: "what's there is, with exhibitions we have captions going side by side [with] the object ... some people will just go in on their own and read and then some would like to be guided..." (MI-3). The labels only have basic information about the objects, such as name, source and use. In addition, with the exception of local names, most of the museum captions are in English (MI-3). For those visitors who tour on their own, and cannot read the captions they just have to see what is on display (MI-3), while those that are guided by museum guides, and are unable to read English, the guide explains what is exhibited. The assumption is that museum visitors are busy people who may not have time to read long captions (Katanekwa, V.K. pers. comm. 29 September, 2009), hence the presentation of just basic information on captions. This approach however, limits the level of community engagement with the displayed materials.

Below is an example of a display in the permanent exhibitions of the Natural History gallery.

Figure 2. A permanent exhibition at Livingstone Museum, Zambia.

The above photo is an example of how environment and sustainability issues are tackled at the Livingstone Museum galleries. The display focuses on environmental conservation, highlighting the various destructive impacts of human activities. The concept is designed and executed by museum staff, and it is meant to 'deliver the conservation message' to the museum visitor.

In this approach to education, it is not easy to tell when learning has taken place. One of the respondents, MI-2, indicated that the museum sometimes uses questionnaires to find out the visitor's experience in the galleries. She, however, emphasised that this is not meant to find out about learning experiences. Addressing the issue of how the museum finds out whether learning takes place through the permanent exhibitions, she stated as follows:

> With the exhibition galleries, one way which has been done occasionally is by putting out questionnaires to people who come around to ask them what they think of the exhibitions, but I don't think this is being done very often, and not directly to find out about learning, but maybe just to find out how useful or how interesting they are (MI-2).

This scenario presents a challenge to museum professionals in devising a method to find out whether learning takes place through exhibitions.

The idea of exhibiting collections for *'people to see'* was reported by respondent MI-1. When explaining the creation of the Natural History wing he stated that "it was felt necessary to start a wing that would start capturing that biodiversity [Zambian], and be able to reflect it to the community so that *they see* the status of their environment" (MI-1; my emphasis). Similarly, another respondent, MI-2 felt the Livingstone community needed to be *shown* the state of the environment for them to make informed decisions about tourism developments in their areas. These observations are a reflection of the approach to museum education that is undertaken through permanent exhibitions, where the focus seems to be 'getting the message across' to the community. In the next section I report the use of temporary exhibitions as an education approach to museum education.

4.3.2   Museum education through temporary exhibitions

The other approach to museum education used by the Livingstone Museum is the use of temporary exhibitions. Under this approach the displays are arranged in a similar manner to the permanent exhibitions, where objects are displayed with captions. The major difference is that the temporary exhibitions last for a short period of time. One of the respondents explained the use of temporary exhibitions at Livingstone Museum as follows:

> From time to time we put up temporary exhibitions within the museum, and these will just be running for a few months on one particular topic and then they will be taken down and changed to something else (MI-2).

The temporary exhibition gallery in the museum is also used as an open space for other individuals and institutions to use for exhibitions. As one of the respondents explained:

> For temporary exhibitions, we had different people coming to put up their exhibitions. So it's not really like we have a specific topic, we have different topics ... . There was a time we had an exhibition on toys for children and recently we had another one on Hiroshima and Nagasaki explosion, so it just like changes time and again (MI-3).

From this explanation it appears the temporary exhibition gallery is a space readily available for exhibitions that address specific topics to supplement the permanent exhibitions.

The other educational approach, currently not in active use at Livingstone Museum, involved what are referred to as 'school cases' (see figure 3). These were in the past, made to address specific topics in line with the school syllabus (MI-1; MI-2). The content is planned by education staff and designed to deliver syllabus based knowledge. The displays in the cases were basically permanent, but their use was linked to that of temporary exhibitions. They were used in the museum as well as in the community exhibitions. One of the respondents described the school cases as follows:

> They were very small exhibitions inside a box on various different aspects. For example, one on insects … different aspects of natural history and there were others from other departments, and these were designed to be portable where a school could borrow it and take to the school and use it for education within the school ... or sometimes museum staff would take them out to schools or other communities. So they were a type of mobile exhibition (MI-2).

Below is a photo of a school case looking at encouraging people to clean their surroundings in an effort to destroy mosquito breeding sites - and hence 'keep malaria away' - an environmental education concern. As can be seen, the presentation is focused on 'showing, warning and telling' the audience what to do to address the issue raised. While the use of exhibitions can reveal meaning about cultural and natural resources as part of social learning processes there is limited opportunity for community engagement.

Figure 3. A school case used at Livingstone Museum

Over the years most of the school cases have either become non-responsive to school needs or they have simply been worn out and are no longer in use (MI-2; MI-3).

It is not easy, however, to ascertain to what extent learning takes place through the use of temporary exhibitions and school cases. One respondent described how the museum attempts to know whether learning has taken place when people interact with temporary exhibitions, as follows: "for the temporary exhibitions usually there is a comments book at the end but again this tends to relate more to whether it was good or interesting, not so much about how much people have learned" (MI-2). Therefore, it appears the Livingstone Museum does not have a deliberate and effective way of assessing whether people learn as they interact with the museum exhibitions.

In the following section I represent findings on how the Livingstone Museum uses lectures as an educational approach to museum education.

4.3.3 Museum education through lectures

The Livingstone Museum, through its research staff, sometimes offers lectures to the public on specific subjects. These lectures can be arranged within the museum building or

at venues outside the museum. One of the respondents explained that one way it has been done in the past is to meet school groups and give them "talks or discussion topics on various, different aspects of Natural History" (MI-2). This approach allows research staff to be in direct contact with the community.

In addition, these lectures are sometimes supported by the use of museum objects. As one respondent explained:

> If for example I am giving a talk to a school group on one aspect of natural history then I would use some of our collections from the storeroom, either a skin or some bones or skull or something like that so that we could actually show them so the student can have a feel and be close up to the specimen to see really what it is like close at hand (MI-2).

Apart from school clubs, lectures are also given to other groups on request. The group identifies its area of interest and the museum, through the Education Department, organises a speaker to deliver the lecture. One of the respondents explained how the content for such lectures with schools is organised as follows: "usually, we liaise with the teachers depending on the age group you are dealing with, mainly the teachers would suggest a topic which they think the pupils will be comfortable with ..." (MI-3). Through this method the museum is only able to attend to very few schools that are within the town. In this case only one school club from Linda High School benefited from the environment and sustainability learning that was undertaken. The learners had to come to the museum once a week for the lessons (Livingstone Museum Annual Report, 2006). Through this method many other schools and learners in the outskirts who equally need museum education services, are left out.

4.3.4   Education through Outreach programmes

The concept of outreach programmes at the Livingstone Museum has gone through tremendous pressure over the years, which has resulted in the failure to undertake outreach activities. One of the respondents described an outreach activity as an activity where the museum is "not just waiting for people to come to the museum but trying to go out to the community either with mobile exhibitions or with information or with audio-

visual displays of some sort, or audio-visual information for them ..." (MI-2). This explanation provides the focus of outreach activities where the intention is to deliver to the community some educational materials prepared by museum staff. It is, however, difficult to ascertain to what extent such materials would be responding to the needs of the community to whom they are to be delivered.

The outreach activities require a lot of attention to prepare and then disseminate the planned content. One of the respondents explained how the planning for a typical outreach activity is done as follows:

> you need to ... work out the content of your subject then you have to make your visual aids. These may be either posters or in some cases a travelling exhibition that you could take to the people. But because this is more or less supposed to have a high impact, you have to develop it in a series of, I would say, more or less like lessons so that each exhibit would have more or less a lesson content that's attached to it (MI-1).

In this case, apart from the newly prepared visual aids, the museum also used the school cases. While the use of school cases is common practice in museums, the Livingstone Museum has discontinued the practice due to among other reasons, the aging school cases and the high cost attached to the outreach activities (MI-3). This was also observed by one of the respondents, MI-2, who stated that "the current situation is, most of the mobile exhibitions are in a state of disrepair, and as far as I know they are not currently in use ..." (MI-2). The issue of cost of outreach activities was similarly commented on by another respondent who put it this way:

> So, I think in terms of preparation, the major cost would be maybe in the man-hours, and also may be just the production of the materials, especially if you want them to be very high quality, because that might be a little expensive (MI-1).

When asked to compare the current levels of outreach activities with the past in the Livingstone Museum, one respondent remarked: "I think the museum has done a lot more in the past than it is doing now may be because of financial constraints" (MI-2). The reported low levels of outreach activities at the Livingstone Museum comes in the wake

of low funding from the government of the republic of Zambia. The funding levels have been decreasing since the early 1980s. This became worse over time. In 2002 the budget allocation to the Livingstone Museum had a deficit of 65%, and down the years the deficit has been marginally reduced, ranging from 49% in 2003 to 34% in 2008 (Katanekwa, V.K. pers.com. 28th November 2009).

4.3.5   Museum education programme through radio

The Livingstone Museum has had a working relationship with one of the local community radio stations, Radio Musi-o-tunya. In this relationship the museum used radio mainly for promoting events taking place at the museum (MI-3). One of the respondents stated that "we have tried to run promotions once in a while on the radio but mainly it's done when we have a function in the museum" (MI-3). However, in mid 2007, the Livingstone Museum undertook a series of thirty-minute radio programmes under the title "*Livingstone Museum Information Corner*". This was a series of awareness radio programmes meant to educate the general public on the different activities carried out by the Livingstone Museum (MI-1). As such it focused mainly on awareness-raising about the operations of the Livingstone Museum.

In this programme, museum personnel were interviewed to explain what their roles in the museum were. Apart from one, the programmes were pre-recorded within the museum, using museum equipment. This was possible because while working for the museum, I also work with the Radio Musi-o-tunya (see Chapter 1) where I learned radio recording techniques. However, as a result of programmes being pre-recorded, there was limited interaction with the community in the programming.

According to museum reports the radio programme was quite successful. The museum "received many enquiries from the general public on some of the issues that were brought out in these programmes" (Livingstone Museum Annual Report, 2007, p. 7). Similarly one of the respondents observed that the museum was happy with the level of community awareness following the radio programme. He described the situation as follows:

> I think of recent we tried one community programme which really we looked at
> the various aspects of the functions of the museum. This we did with Radio

Musi-o-tunya. ... and this generated a lot of interest because for once people realised that the museum was an active institution not just a repository of old specimen (MI-1).

While the use of radio may be desired, there still lie a number of challenges with regard to the actual format and execution of the programmes. Radio programming requires some financial input and adequate personnel if it is to be carried out effectively.

4.3.6   Challenges and opportunities in Museum Education practices

4.3.6.1 Low visitation
Museum education through exhibitions depends on the people that eventually visit the museum. The Livingstone Museum has a challenge because of the number of people that visit the museum. For instance in 2006, 325 learners from local (Livingstone district) basic schools, one university group, and one college group toured the museum for education purposes (Livingstone Museum Annual Report, 2006. p. 9). In 2008 the number of schools attended to by the Education Department increased to 80 schools. These were mainly from within the southern province where the museum is located (Livingstone Museum Annual Report, 2008). While the numbers appear large, the potential to attract more makes it relatively insignificant. This is especially so since the museum has mostly been dealing with the same schools over the years (MI-3).

The museum acknowledges that there is "need to enhance the public programmes to advertise the museum widely and to involve the general public in the activities of the museum" (Livingstone Museum Annual Report, 2005. p. 2) Therefore efforts need to be made to find effective approaches of attracting more visitors as well as reaching out to many more people that need museum services, and radio is one such option.

4.3.6.2 Inadequate funding
The Livingstone Museum is a government institution whose major source of funding is the Government of the Republic of Zambia. Museum funding has remained a challenge for a long time, since the late 1980s. The low funding has affected several of the museum's operations as one respondent explained:

we have had a long period with not enough funds going to the Education Department and it has been difficult to [do] outreach because of transport costs and other costs of making these mobile exhibitions and other equipment (MI-2).

However the funding challenge seems to be accompanied by other issues and difficulties that influence outreach activities. One of the respondents insisted that while funding is a major issue (MI-2; MI-3), there is also the challenge of personnel especially in the Education Department of the Livingstone Museum. The respondent put it this way:

> But I must say of late we don't seem to have any outreach programmes. Basically the problem is the finance, the poor financial position of the institution and then also lack of facilities like transport. But up and above this is I think the main problem really is the human resource (MI-1).

The continued reduction in funding levels calls for a change in approach to education activities in the museum. In the following section I present evidence of how the issue of personnel has affected education activities at the Livingstone Museum.

4.3.6.3 Inadequate human resource

The Livingstone Museum operates with a relatively huge research group and a very small Education Department (at most, two officers). While it is recognised that the Education Department should coordinate the museum education activities (MI-1; MI-2), it was reported that there is need to address the challenge of personnel in the Education Department. One of the respondents described the situation as follows:

> within the museum, I think there is also need for us to re-focus a little bit. Firstly strengthen the Education Unit because I think at the moment it is the weakest link in the chain. ... I think if we strengthen that we should be able to reach a situation where the researchers and the Education Department can work with the people to get the information out (MI-1).

The challenge of coordination of the research and education units in the Livingstone Museum was also observed by one of the respondents who explained as follows:

> So it really needs the research department and the Education Department to be working together and supporting each other ... . And what has happened in the past is either the Education Department has been working on its own and not

involving the researchers or the researchers have been trying to run an education programme without help from the Education Officers (MI-2).

The same respondent felt that the education activities at Livingstone Museum also appear to be dependent upon the interest of the individual Education Officer. She explained that even when funding has been low, some Education Officers "have been very keen and very active and they have been able to do quite a lot, ... while others have just waited for people to come to the museum and taken it from there" (MI-2). This observation follows from the fact that the Livingstone Museum, over the years has had a lot of changes in the people working as Education Officers (MI-2). Another respondent equally highlighted this observation when referring to one of the education programmes that was promising to have a significant community impact through television programmes but was abandoned. He put it this way:

> In the [19]90s we had one programme ... where school children were being sometimes brought to the museum to look at the exhibitions and then they would be taken out to try and see what they could relate to what they saw in the museum. ... That programme actually should have culminated into a thirteen series programme with the Education Broadcasts, ... the problem was the finances. ... but eventually also the shifting of the Education Officer who was spearheading the programme, I think, led to the abandonment of the whole programme (MI-1).

This scenario seems to agree with respondent MI-2 who indicated that education activities at the Livingstone Museum seem to be dependent upon individual interest of the Education Officer at the time.

4.3.7   Opportunities for working with radio

The idea of working with radio was highlighted by one responded who, in responding to what method of community engagement she would like the museum to consider, explained as follows: "certainly I think radio programmes is one possibility if there is the right people and technical know-how to organise that, and with radios available in that area" (MI-2). Similarly respondent MI-3 considered working with radio as one possibility for the Livingstone Museum to engage the community in environmental education. Her

main concern was the duration that the programmes would run: "We would look at a situation where maybe we partner with the radio so that we can have programmes running time and again", she said (MI-3). In supporting the idea of using radio for museum education another respondent felt the museum radio programmes would be successful and suggested that the programmes:

> should involve at least some level of interaction with the community either [through] phone-in programmes, or discussions or questions ... or maybe some aspects of stories or something that makes it entertaining and then … something that is relevant to the community to the problems they are facing (MI-2).

While the Livingstone Museum has several challenges with regard to undertaking outreach activities on environment and sustainability issues, the available opportunities are equally many, hence the need to explore alternatives. One of the respondents observed that the need for the Livingstone Museum to undertake outreach activities has become more now due to the many environmental challenges society is facing. He also noted that the presence of community radio stations has provided a communication means to "reach a wider population within a shorter time at a minimum cost" (MI-1). In addition, the museum has equipment meant for public programmes and other audio-visual needs (MI-1). It is this equipment that could be utilised in the recording and editing of outreach programmes for broadcasting on radio.

4.4   MUSEUM AND RADIO EDUCATION PRACTICES: REFLECTIONS OF PRACTITIONERS.

In the previous two sections (4.2 and 4.3) I presented data on how community radio practices and museum education practices are undertaken. A summary of these data was presented, as preliminary findings, at a strategy workshop involving staff from the Livingstone Museum and Radio Musi-o-tunya. These institutions are the key units on which this study is focusing. Following the presentation at this workshop, the participants worked in groups to discuss questions on possibilities of the Livingstone Museum and Radio Musi-o-tunya working together on environment and sustainability learning. The group-work was followed by an open discussion on the presentations from the groups.

(see questions in section 3.5.3). In this section I present findings from the workshop deliberations.

4.4.1 Partnership in programme production

After considering the findings and deliberating on them, the workshop agreed that there are possibilities of the Livingstone Museum and Radio Musi-o-tunya working together in educational radio production. Radio programming requires certain expertise to adjust the content knowledge into an educational radio programme. This expertise was seen as the strength of Radio Musi-o-tunya in contributing to a working partnership with Livingstone Museum (SG-4). The museum's strength was identified as the availability of technical personnel trained in environment and sustainability issues (SG-2). However, the workshop also noted that if environmental education programming is to be successful it should involve the local community in identifying educational needs (SG-3; SG-2; SG-1). The local community was seen as an important partner to ensure that the identified issues are issues of concern to the community for whom such programmes are intended (SG-2; SG-3). Therefore the programming would have to involve "creation of linkages between/among the groups involved" (SG-2). One way of creating these relationships is by "visiting the community to find out their areas of concern" (SG-3). The process of getting into a community requires careful consideration to ensure acceptance of the programmes. One way to enter a community is through local leadership structures. The workshop suggested that it would be important for the museum to "identify target groups and design appropriate programmes in conjunction with the community radio station" (SG-3).

The need for working together between the museum and the radio station was seen as an important aspect in enhancing the relevance of both institutions in the community they serve. This follows the recognition that both institutions aim to serve the same community, and as such working together in radio programme production would "complement the skills and expertise of either institution in achieving set goals" (SG-2). This then would call for identification of key personnel in both the museum and the radio station (SG-2) to ensure efficiency in the working relationship. Working with each institution's strengths would possibly result in higher benefits for the community.

With regard to programme structure one group suggested that the radio programme should include some questions at the end of the programme. The group explained that "including questions that raise controversy would encourage listeners to debate the issues, and as people debate they tend to understand much more than if they were not debating" (SG-1). This was seen as a key factor in order to bring about community learning and practice change.

4.4.2 Museum and radio engaging the community

The workshop participants agreed that it is possible for the Livingstone Museum and Radio Musi-o-tunya to work together in engaging the Livingstone community in environment and sustainability learning through radio.

One group observed that there is need to engage the community in identifying the environmental issues to be addressed through the radio programmes. The group explained that this would make the programmes acceptable to the community and ensure that issues being addressed on radio are issues of concern to the community served: "we need to identify needs with the community in order to disseminate appropriate information" (SG-1). In addition the engagement with the community would influence the sustainability of such radio programmes.

One of the reasons identified for the need for the museum to work with radio is that working together is cost-effective and faster. It ensures a wider reach with reasonable resources. The intended radio programmes should be preceded by promotional messages using the local languages (depending on radio policy). In this way the community would not be caught by surprise in the activities, and it would encourage acceptance and participation by community members (SG-1). The issues of environment and sustainability require cooperation with a wider community in order to be effectively addressed, hence the need to create relationships with, and among the communities being served (see Section 2.8). Currently the public outreach at Livingstone Museum is limited to exhibitions, and radio provides an opportunity to reach out to many (SG-4). Through radio the community would have an opportunity to be part of the production team, which would encourage listenership, and bring about practice change in response to

environmental exploitation among the listening communities (SG-2). The interactions through radio listening would then foster environmental education for sustainable development (SG-2).

The community involvement can easily be achieved through working with key people and existing leadership structures within the communities. Radio Musi-o-tunya already has some structures through the Radio Listener Clubs (see Sections 1.4 and 4.2.6). As such what would be required is to strengthen such structures and create more. In addition, other community players involved in environmental issues must be involved in the museum-radio-community relationship (SG-2).

4.4.3 Museum and radio working together to reduce cost of educational programming.

One of the key issues identified as affecting outreach activities at Livingstone Museum was the issue of funding and the cost of these activities (see Sections 1.9 and 4.3.4). In this study it became important to identify possibilities of undertaking environmental learning with moderate cost implications. At the strategy workshop, the participants agreed that working as a partnership is one way to moderate the overall cost of educational programming for both the Radio Musi-o-tunya and the Livingstone Museum.

The workshop recognised that the Livingstone Museum has staff that can provide content knowledge on environmental education, while the Radio Musi-o-tunya has expertise on how to package the content knowledge into radio programmes (see Section 4.4.1). the workshop also suggested that in working together, the radio and museum should come together to structure the museum environmental education programmes into radio programmes (SG-1). The radio staff can assist in writing the programmes for radio audiences.

One of the key factors noted in the workshop for reducing the cost of programming was that environmental education programmes for radio can be produced ahead of time and in large quantities, during a single visit to the community (SG-1). This would eliminate costs associated with physical movement involving several trips to the field for outreach activities. Apart from reducing the cost, the workshop participants observed that

environmental learning through radio would increase the possibility of community participation in the programming and encourage community practice change (SG-1; SG-3).

However, one of the participants in the workshop was concerned that the use of radio for museum education would not allow the audience to see the objects, which is one of the key elements in current museum education approaches. In his view museum education through radio would actually increase the cost on the part of the museum since the museum would still require undertaking fieldwork to "show" the objects (SG-3) to the community. This observation was debated by the participants and they noted that the radio programmes are not meant to replace existing museum education approaches, but to complement them (SG-3), and that the proposed measure was in view of inactivity in Livingstone Museum outreach programmes over the years.

In apparent response, one of the participants from the same group argued that although museum education has in the past been focussed on people seeing and touching the objects, not all education topics require that people should see or touch objects (SG-3). Another participant observed that for a long time the Livingstone Museum has not undertaken outreach activities due to lack of funds, and now the challenge was to try and find other ways to reach the community (SG 3). He added that even though people will not see or touch objects through radio programmes, environmental issues are about their day to day life, and as such engagement can still take place effectively through radio (SG-3). The use of radio would be aimed at engaging the wider community in addressing environmental issues of concern to them, without necessarily physically going to all places.

4.5   CONCLUDING SUMMARY

This section has presented findings on how community radio stations engage listeners in learning activities through radio programmes based on the experiences of three community radio stations. Several issues focusing on radio practices and museum education approaches have emerged. Evidence from the strategy workshop shows that the Livingstone Museum and Radio Musi-o-tunya acknowledged the potential for

complimenting each other's activities based on their individual capacities, for the benefit of the community.

The section has highlighted that community radio programming allows listener groups to identify issues and initiate deliberation which later calls for expert commentary to challenge the conventional practices, which could bring about learning. The listeners then communicate with the radio stations to provide feedback.

I have also presented the various ways the Livingstone Museum engages the community in environment and sustainability issues. The major approaches involve exhibitions, outreach activities and lectures. In all the museum education approaches used, it appears there is very little community engagement, and it is not easy to tell whether learning has taken place as people visit the museum. I have also presented findings on the challenges and opportunities with regard to outreach activities through radio. These findings are discussed in the next chapter (Chapter 5).

CHAPTER 5

COMMUNITY RADIO PRACTICES: IMPLICATIONS FOR MUSEUM ENVIRONMENTAL EDUCATION PROGRAMMES

5.1   INTRODUCTION

This chapter discusses the evidence presented in Chapter 4. The discussion draws on social learning theory after Wals (2007) as well as other literature as presented in Chapter 2. The evidence was generated in relation to the following research questions:

- How do the current museum outreach practices engage the Livingstone community in environment and sustainability concerns?

- How does community radio currently engage listeners in social learning?

- How can museum outreach and community radio programming be partnered in environment and sustainability learning?

As indicated in Chapter 1, the study looks at community radio programming and its potential alignment with environmental education practices of the Livingstone Museum. It also addresses workshop outcomes to see how recommendations (see section 6.4) can be made to museum and radio to try to provide a framework for engaging the community in environmental learning (see Section 6. 5).

This chapter is structured in such a way that analytical statements (see Section 3.7) are made, focussing on community radio practices, museum education practices, and how museum and radio practices can complement each other.

Based on the evidence presented in Chapter 4, the following analytical statements were made:
- Community radio programming can start with local environmental concerns to engage community listeners in locally relevant learning.

- Working with a community-based programming approach allows for the addition of expert knowledge to complement, challenge, explain and extend the community's existing knowledge and experience.

- Community radio programming provides opportunities for social learning in listener groups to clarify local issues and explain change possibilities. This includes accessing other sources of knowledge.

- The Livingstone Museum's main educational approach is to use expert-led knowledge that is mainly mediated through artefacts, through public lectures, exhibits and outreach displays.

- The educational practices of the Museum and Radio programming could play complimentary roles in facilitating community-centred environmental learning.

Each statement from the evidence presented is justified and then discussed in light of the literature presented in Chapter 2.

5.2   COMMUNITY RADIO PRACTICES AND ENVIRONMENTAL LEARNING

Community radio stations operate in localised areas, with well defined audiences (see Sections 1.4, 1.5 and 1.6). This makes them suitable for addressing local issues in specified areas (see Section 4.2.6). This type of radio has a direct link with the community which provides an opportunity to work with the community in programming. The desire to work with wider community on environmental issues is aimed at generating contextual solutions to environmental issues, working with the concerned communities. Wals (2007) advises that, in addressing environmental concerns, we need solutions that are co-created and co-owned by the local community.

In the following sections I discuss how community radio works in undertaking its educational role in the community.

5.2.1 Engagement and local relevance

Analytical statement 1: Community radio programming can start with local environmental concerns to engage community listeners in locally relevant learning.

Community radio programming is diverse. Although radio programming was diverse among the radio stations studied, it was possible to look across the cases to derive insights into programming practices that relate to environmental learning through radio. From this standpoint and my review of the evidence presented (see Sections 4.2.1.3 and 4.2.5), it was possible to note that education in community radio stations involves engaging the local community using stories and issues that are authentic and generated from within communities. Evidence from the environmental conservation radio programme at Dzimwe Community Radio shows that the programme involved stories, poems and drama generated by the local community. These stories, poems and drama were focusing on the identified environmental subject (see Section 4.2.1.2). In this case it is evident that the environmental issues being addressed were identified by the Radio Listener Clubs who then presented the issues to the radio station for broadcast (see Section 4.2.3). Since the environmental issues and the supporting drama and poems were generated by the community, one would conclude that the programmes addressed issues that the community members considered important to them.

Similarly, from the evidence provided in Section 4.1.2.3, Radio Listener Clubs at Chikuni Community Radio identify community issues and record them for radio broadcasting. The idea of issues being identified by the community allows for the inclusion of local indigenous knowledge and local experiences which are significant factors in action-oriented approaches to Environment and Sustainable Development (ESD) (Lotz-Sisitka et al., 2006). This approach is also supported by Dyball, Brown and Keen (2007) who argue for locally designed solutions to environmental problems. They remind us that "attempting to solve local problems by 'importing' solutions which have worked in a different context has met recurrent failure in terms of sustainability" (p. 182). As such, working with locally generated environmental solutions to address locally identified environmental problems may be much more likely to succeed than otherwise.

Working with local community in environment and sustainability issues is also in line with the observations by Janse van Rensburg (1996) that to solve environmental issues we need to make changes to our social systems and actions. Once we work with communities to identify and address environmental concerns, the community will always address what is really important to their society (see Section 4.1.2.2). The approach also seems to heed the advice by Lotz-Sisitka et al. (2006) that Southern Africa needs to develop participatory approaches and methods to address environmental issues.

In the case of Radio Musi-o-tunya, the drama in the *Our Family* programme is not generated by the communities. However, the drama is designed in such a way that it tackles social issues that are prevalent in the community, which the community then relates to (see Section 4.1.2.1). The depiction of true life situations in the drama encourages people to listen to the radio programmes (see Section 4.1.6). This phenomenon of attracting many people to listen to radio is a significant factor in environment and sustainability learning because it ensures that environmental concerns of one sector of society are then shared with the wider community. The drama does not prescribe any solutions, but raises questions and controversy which encourages debate among the listeners in the community. It is through debate that people have an opportunity to learn and change practices. Wals (2007) argues that "in social learning, the learning goals are, at least in part, internally determined by the community of learners itself" (p. 19). He further comments that social learning "tends to refer to learning that takes place when divergent interests, norms, values and constructions of reality meet in an environment that is conducive to meaningful interaction" (Wals, 2007, p.39). In this case social learning becomes a way of organising learning and communities of learners (ibid). This approach is significant for creating a platform conducive for engaging in environmental education. With the increased number of participants through radio, the resulting decisions and suggested solutions to environmental issues are likely to be effective, as was reflected in some of the positive outcomes in communities served by the radio stations under study (see section 4.2.8).

Additionally, working with local stories engages both adults and the young (see Section 4.1.6), which provides opportunities for learning interactions across a wide age range.

This situation allows effective social learning to take place, where listeners not only learn from the radio programmes, but also from one another (Wals, 2007; Glasser, 2007) as they listen and discuss the radio programmes. It allows community mobilisation towards addressing community concerns.

From the foregoing, it can be concluded that for community radio programming to effectively address the local environmental concerns, it must involve the local community, and should focus on locally relevant environmental concerns.

5.2.2 Learning and change through expert commentary

Analytical statement 2: Working with a community-based programming approach allows for the addition of expert knowledge to complement, challenge, explain and extend the community's existing knowledge and experience.

It is clear from the evidence that community radio plays an educational role in the community through its programming (see Sections 4.2.1.1, 4.2.1.2 and 4.2.1.3). The evidence shows that there are two main ways in which expert knowledge is used in community radio educational programming. Some programmes simply focus on the expert explaining issues for the listeners, usually through interviews with radio personnel (see Section 4.2.1.3), while others allow for interaction between the community and the experts on specific subjects (see Section 4.2.1.1).

In programming that engaged the local communities it was interesting to note that the bringing in of expert opinion was a significant part of the radio programmes, and that this stimulated further community responses and action-taking (see Sections 4.2.1.1 and 4.2.4). This evidence allowed me to conclude that working with local issues identified by the community allows the addition of expert knowledge that addresses the prevailing conventional wisdom and experiences on environmental issues in the community. It is through this challenge and expert explanations that the local community knowledge is complemented, bringing about community learning. This was evident in cases where the issues are directly generated by the community as in the case of Environmental Conservation programmes at Dzimwe Community Radio (see Section 4.2.1.2), as well as in the *Our Family* programme at Radio Musi-o-tunya where drama was used to set the

context, followed by community discussion then comments from specialised experts through the feedback programme (see Sections 4.2.5).

During generation of community issues, the community discusses the topic, identifying the challenge at hand, and suggests other concerned individuals and institutions to be involved in finding solutions. Sometimes the other concerned individuals and institutions are identified, after listening to the community concerns, by radio producers (see Sections 4.2.1.1 and 4.2.4). The radio station producers invite experts to comment on or challenge or explain the phenomenon under discussion. This allows both the community and the expert to reflect upon the issues raised in the discussion. According to Dyball, Brown and Keen (2007), the reflection on the value of what one knows and how one gets to know it leads to new understandings, and thus learning takes place.

The idea of working with the community to identify environment and sustainability issues within the community accords with the observation by Gough (1997) that in environmental education there is a growing recognition of the socially constructed nature of knowledge and support for situated learning. This approach to learning takes on board the learners' prior knowledge. Challenging established community perspectives allows further deliberation which can lead to community-led practice-change, a significant factor in addressing environment and sustainability concerns. This was evident in the case of the programme on challenging property inheritance through writing a **Will** to address property sharing upon the death of a parent (see Sections 4.2.4 and 4.2.8).

The approach of allowing the local community to contribute to the radio programmes based on their understanding of environmental issues recognises the significance of indigenous knowledge systems, which in many environmental programmes have been overlooked. This exclusion of local knowledge has resulted in the failure of some activities aimed at addressing local environmental issues (Dyball, Brown & Keen 2007). This implies that environmental education activities should, as much as possible include local knowledge and learners' prior knowledge in environmental learning interactions.

5.2.3 Deliberation, networking and change

Analytical statement 3: Community radio programming provides opportunities for social learning in listener groups to clarify local issues and explain change possibilities. This includes accessing other sources of knowledge.

In all the radio stations studied, at least one of the programmes involved deliberation of issues raised by the community. For example under the *Our Family* programme the drama has questions that require the listeners to discuss the issues raised (see Section 4.2.4). Similarly, the Environmental Conservation programme at Dzimwe Community Radio involves communities discussing the identified environmental issues (see Section 4.2.3). There was, however, diversity of subjects addressed. The deliberation can take place at two stages: firstly, it can take place at the stage of programme preparation when groups discuss issues they raise (see Sections 4.2.3 and 4.2.9.1) or as feedback to earlier programmes, and secondly by way of phone during live radio programme presentations (see Section 4.2.9.2). One of the limitations of the community discussion approach is that established community perspectives can simply circulate without fostering change. This is however, addressed in community radio stations through the use of magazine format of programming and expert commentary (see Section 5.2.2).

The evidence also shows that community structures created by the radio stations in the form of Radio Listener Clubs are involved in the production of radio programmes addressing environment and sustainability issues. In situations where the community generates the subject for radio broadcast, the rest of the listeners in the radio's coverage area have an opportunity to know and learn about the issues being discussed (see Section 4.2.8). Therefore one part of the listening community can provide suggestions to environmental challenges faced by another. The opportunity can also be used by one community to seek advice from other listeners. This evidence led me to conclude that in community radio programming, groups meet to learn from one another, and then communities learn from each other, thus, creating a network of learning communities (Wals, 2007; Glasser, 2007; Wals & van der Leij, 2007).

Since environment and sustainability issues require participation of the wider community to address them, working with a network of communities through radio provides

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opportunities for wider participation in decision making and action-taking, and increases the chances of suggested solutions to challenges being accepted by the community. This approach is supported by Wals (2007) through his description of social learning as the learning "taking place in groups, communities, networks and social systems …" (p.100). Its significance in environmental education is also influenced by the understanding that environmental issues are "thoroughly social problems, problems of people, their history, their living conditions, their relation in the world and reality ..." (Irwin cited in Lotz, 1999. p. 48). Through group discussion, community concerns are addressed with wider community participation. Communities are diverse, and as such there are so many suggestions that can arise from individuals in attempts to address local environmental concerns. The process of deliberation addresses such community dynamics, leading to shared approaches to community concerns. Therefore working with communities in environmental learning becomes a major avenue through which local knowledge and experiences are shared with a wider population. This approach to environmental education is also in agreement with the observation by Lotz-Sisitka et al. (2006) that "mobilising indigenous knowledge in ESD is a very important feature of ESD practice in Southern Africa (p. 32) (see Section 5.2.1). It is through groups and networks that participatory approaches and methods become important in "building capacity for action-taking and also for ensuring ownership and longer term sustainability of initiatives" (Ibid, p.14).

 In the case of the Environmental Conservation programme at Chikuni Community Radio, the evidence shows that the initial approach was interventionist, aimed at community sensitisation about issues of invasive alien species (see Section 4.2.1.3). The radio producers acknowledged that the interviews alone were inadequate to bring about the expected interest in the community. As such they decided to introduce a drama and questions alongside interviews (see section 4.2.1.3) as a way to arouse interest in the community. Through the drama and questions the expectation was that the community would then deliberate the subject of the radio programme further.

Similarly, the *Our Family* programme at Radio Musi-o-tunya (see Section 4.2.1.1), and the Environmental Conservation programme at Dzimwe Community Radio (see Section

4. 2.1.2.) have segments where programmes involve community deliberation to raise questions or respond to questions posed, based on the subject for that programme (see Section 4.2.4). The discussions bring about learning interactions as people share opinions and experiences about the issue at hand. This kind of learning through radio is dependent upon the presence of the 'other' (Wals & Heymann, 2004). According to Wals and Heymann (2004) "in social learning the interactions between people are viewed as possibilities or opportunities for meaningful learning" (p. 9). In deliberation following radio programmes, the social learning taking place provides opportunities for dialogue and exchange of ideas and feelings such that participants benefit from the 'presence of the other'. The community radio stations facilitate the social learning, through the establishment of community structures (Radio Listener Clubs) that provide for group listening to radio programmes (see Sections 4.2.2 and 4.2.6). In addition the use of questions in radio programmes equally creates an opportunity for social learning through discussions that follow (see Sections 4.2.4 and 4.2.5).

This agrees with Alumuku (2006) who observes that through community radio, "specific problems can be analysed, remedies discussed, and those most affected – or who can help with the solution – mobilised to collective action" (p. 40). The community generated environmental issues are specific, and the process of deliberation allows for the identification of possible partners towards collective action. This was evident in the case of the community that started building a nursery school in Musokotwane area under Radio Musi-o-tunya (see Section 4.2.8). Therefore, this approach to education is very significant for environmental education since environmental learning needs to challenge the day-to-day practices in order to address the many resulting environmental problems. The suspense and controversies raised through the drama and poems encourage debate (see Section 4.2.1.1) and thus, similar strategies could lead to better decisions being made to address environment and sustainability concerns.

According to a study on Farm Radio Forum Project by Paul Neurath (cited in Nwaerondu & Thompson, 1987) "forum members learned much more about topics under discussion than did adults in villages without forums" (n.p) (see also Section 2.7.2). What this shows for community radio programming is that there is need to encourage deliberation through

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group listening. However, the Radio Listener Clubs seem to listen as a group only to programmes that they are advised to by the radio producers (see Section 4.2.7). This then implies that for programmes not advertised for group listening, the likelihood of deliberation and debate is slender; hence the learning process may be compromised. Therefore, educational radio programmes need to be vigorously promoted to encourage group listening and debate among listeners, as well as to increase the listening audience.

The aspect of programme discussion promotes social learning which is important for environmental learning. As Beck (1992) notes, many of our economic activities produce environmental risks. Therefore to engage people in change practices requires negotiation and group decision making. Programme discussion provides for opportunities for both hierarchical and co-learning (forms of social learning) processes, where people interact and inevitably learn from each other (Glasser, 2007).

Another study by Jain (cited in Nwaerondu & Thompson, 1987) on the effects of rural radio forum showed that "group listening followed by group discussion was more influential in changing beliefs and attitudes towards innovation than was group listening without discussion" (n.p). As such, environmental education programmes on radio should encourage group listening and discussion to enhance the listeners' learning experiences.

The approach to education through radio involving radio listening groups has a high initial cost in setting up the groups (Jamison & McAnany, 1978). It also requires support and supervision of the radio listening groups to encourage group listening and action-taking. However, in many community radio stations, such listening structures are already in place (see Sections 4.2.1.1, 4.2.1.2, 4.2.1.3 and 4.2.6). For instance the groups at Chikuni Community Radio started through existing committees. In addition, in many communities there are existing structures of some kind, such as women's groups, farmers groups and other social groupings that could be used in museum radio programming. The use of already existing community structures could significantly reduce the initial cost associated with setting up the groups.

5.3   MUSEUM EDUCATION PRACTICES

One of the major roles of a museum is to engage in education activities with the museum audience (see Sections 4.3.1, 4.3.2, 4.3.3 and 4.3.4). As discussed in Chapter 4, the museum uses several approaches to undertake its education activities. However, the messages are delivered in a somewhat similar manner from one approach to another. It appears the major approach is based on 'show and tell' arrangement which denies the audience an opportunity to fully participate in the learning interactions. In the following section I discuss how the museum 'knowledge' is used in education activities at the Livingstone Museum.

5.3.1   Museum knowledge delivery mediated by artefacts

Analytical statement 4: The Livingstone Museum's main educational approach is to use expert-led knowledge that is mainly mediated through artefacts, through public lectures, exhibits and outreach displays.

The study revealed that the museum is a knowledge-rich institution with displays which are meant for people to come and view and possibly learn from. It appears there is little community engagement in museum education activities (see Section 4.3.1). The evidence generated has shown that the current approach to museum education at the Livingstone Museum focuses on 'delivering the message' to the museum visitor through the use of both permanent and temporary exhibitions as well as lectures and outreach activities, some of which are not currently working well.

The exhibitions as well as the materials for outreach activities are developed and presented by museum research and education staff with very limited contribution from the community for whom they are intended (see Sections 4.3.1 and 4.3.2). The museum staffs select what they deem to be suitable material to show to the visitor, and then write what information they deem suitable for the museum audience. In terms of environment and sustainability concerns the focus of the displays seems to be teaching about 'environmental problems' (see Section 4.3.1, and Figure 2). There is emphasis on 'what should not be done' and little is done to suggest alternative livelihood activities. The objects are used to strengthen the conservation messages. In some cases a tour guide

authoritatively explains to the visitors what is on display. With this expert-led approach it is not easy for visitors to engage with museum guides or the displayed objects. As such it is not easy to tell whether the visitors learn anything significant from their encounter with museum exhibitions (see Sections 4.3.1 and 4.3.2).

Similarly, the school cases were constructed based on the content of the school syllabus to address specific topics at the time. There is equally limited community contribution to the generation of the content as well as engagement during presentation in outreach activities. The Livingstone Museum acknowledges that the contents of some of the school cases are old (MI-1; MI-2; MI-3). Since environmental concerns are different from one community to another, school cases in their current state may not be responsive to many local environmental concerns. This is also the limitation of the use of outreach activities based on delivering educational materials developed entirely by museum staff. The content may not respond to environmental needs of the community (see section 4.2.5) since the community does not participate in its selection. Reid and Nikel (2008) argue that in the field of environmental education, among the various concepts, participation is an important objective. They make reference to Agenda 21 which argues that "one of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision-making" (cited in Reid & Nikel, 2008, p. 38). This participation should happen as a life-long activity (ibid) hence the need for the Livingstone Museum to broaden the level of participation in environmental education activities. Similarly, O'Donoghue (1993) suggested that there should be community participation in co-construction of environmental education messages in order to give voice to relevant needs, and empower people to make meaningful choices in their environment and sustainability practices.

The evidence also suggests that the museum has been operating in a manner that sets it apart as a place of knowledge to which the public must be attracted (see Sections 4.3.1 and 4.3.6.1). To this effect Walsh (1992) challenges museum practitioners that "a '*new museology*' must concern itself with involving the public, not just during the visit to the museum through interactive displays, but also in the production of their own past" (p. 160). Similarly, Hooper-Greenhill (1994) calls for an integration of the functions of the

museum so that knowledge of collections is related to, and generated by the knowledge of the audience. This therefore implies that in addressing environment and sustainability concerns, the approach to museum education and specifically to outreach activities needs to be reviewed to ensure community participation. The museum must become an encounter space where the audience have the opportunity to co-define what is presented to them, as well as what they encounter in their daily practices.

5.4 MUSEUM AND RADIO COMPLEMENTING EACH OTHER
Analytical statement 5: The educational practices of the Museum and Radio programming could play complementary roles in facilitating community-centred environmental learning.

Both the Radio Musi-o-tunya and the Livingstone Museum work towards addressing community needs and, during their operations, in one way or another, they interact with community members. They, however, have different approaches to the way they engage with the community they serve. The evidence in this study led me to conclude that radio and the museum could work together in education programming to engage the community in environmental learning.

Currently the Livingstone Museum waits for people to visit the exhibitions within the museum building. On the other hand, Radio Musi-o-tunya has operated through community structures such as Radio Listener Clubs (see Section 4.2.6). Working with the community in their locality encourages social learning processes as people interact with one another in addressing environmental issues. As Wals and Heymann (2004) observed, through interactions possibilities and opportunities for meaningful learning are created. The interactions would be beneficial to the Livingstone Museum education activities because they facilitate dialogue and exchange of experiences and ideas that eventually influence practice change.

The museum has professional staff that has good access to technical knowledge on environmental issues, but they are unable to reach out to the community due to limitations of facilities and funds (see Section 4.2.6.2). On the other hand radio has the facility (air-time) to reach out to the community, but may lack the technical knowledge in

environment and sustainability issues (see Section 4.2.10.3). The workshop agreed that there is potential to use radio to address environmental issues in communities (see Section 4.4.2). What needs to be done is that the museum and radio should plan the basic environmental education programme layout so that it provides for the community to raise issues, and then the technical staff at the museum would provide commentary to address the issues raised. The role of the radio staff would then be to transform the environmental education content into participatory radio programmes (see Section 4.3.1). This approach would ensure that the community becomes part of the process of constructing the environment and conservation messages to be broadcast to the wider community, a process that will create a 'sense of ownership' of the programme, and may add to the likelihood of the success of the implementation of that programme. This follows from O'Donoghue's (1993) suggestion that rather than continuing concentrating efforts on awareness through external messages and wildlife experiences, we need to support the structures and 'tools' for environmental problem-solving among participants at local level. It also agrees with the Food and Agriculture Organisation's (FAO) observation that "sharing knowledge, linking different viewpoints, fostering dialogue and mutual understanding are essential for encouraging participation among stakeholders, and communication is central to this task" (FAO, 2010).

Both radio and museum education approaches are characterised by some form of social learning. In these approaches social learning is important because it promotes 'situatedness' and community participation in learning activities to incorporate relevance in addressing environment and sustainability concerns. As Glasser (2007) observed, social learning provides the opportunity to directly engage both a broad range of perspectives and the whole human being. It has the potential to promote effective environmental learning processes.

Community Radio provides the communication means that by design addresses local situations. This factor increases its responsiveness to community needs. The museum can use this factor to advance its duty of fostering environmental learning in the community.

5.5   CONCLUDING SUMMARY

In this chapter I have discussed the ideas of relevance, community engagement and the use of expert commentary in community radio programming. The discussion has also shown that while radio education programming provides for co-engagement with the audience, museum education is about artefacts and delivery of messages to the audience. As such I have suggested that the museum needs to become an area that offers more than just knowledge, but also engages with the audience. In the next chapter I summarise the study on community radio practices and museum outreach programmes, and then make suggestions to enhance both radio and museum education practices. I also suggest a framework for the Livingstone Museum media-based outreach education activities.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1   INTRODUCTION

This chapter concludes the research by providing a summary of the research findings as discussed in Chapter 5, and draws on evidence to make recommendations (see Section 6.4) associated with addressing issues of how the understanding of Livingstone Museum education practices and community radio programming could guide media-based environmental education outreach programming (see Section 6.5). I make recommendations that attempt to address the need to re-orient museum environmental education approach; the need to work with radio listener groups and the need for working through partnerships in environmental learning.

6.2   SUMMARY OF THE RESEARCH

This research was informed by social learning theory (Glasser, 2007; Wals, 2007). It was undertaken as a collective case study (Stake, 2000) within the interpretive tradition, and involved the Livingstone Museum, two community radio stations in Zambia and one in Malawi. The desire to undertake the study came about as a result of the observation that Museum Outreach activities at the Livingstone Museum were almost no longer in existence. I was also influenced by the work the Livingstone Museum had undertaken with a local community radio station, Radio Musi-o-tunya, where it appeared that radio could offer much more than community awareness. The research focussed on addressing two main questions which are: How do the current museum outreach practices engage the Livingstone community in environment and sustainability concerns?, and, how does community radio currently engage listeners in social learning? The third question looked at how museum outreach and community radio programming could be partnered in environment and sustainability learning.

In addressing these questions, data was generated using semi-structured interviews, analysis of documents and through a strategy workshop. The resulting data was analysed thematically through the use of analytical memos (Bassey, 1999). The evidence was

reported in Chapter 4 using thick descriptions to capture as much of the evidence as possible. The evidence was then discussed through generation of analytical statements (Bassey, 1999; Merriam, 2001). These statements helped me answer the research questions.

6.3   OVERVIEW OF RESEARCH FINDINGS

The study has shown that education practices in community radio stations engage the local community using drama and stories to set the learning context for the community. Through engagement with local communities, local issues are generated and debated to come up with an agreed position on actions to address the environmental issues. The involvement of local community in generating environmental issues for broadcasting ensures that the interest of the community is prioritised and addressed. The use of locally generated solutions to local environmental issues agrees with observations that such solutions work better than 'imported' ones (Janse van Rensburg, 1996; Dyball, Brown & Keen, 2007).

It was also clear that the creation of suspense through drama and stories is a significant factor in bringing about deliberation of the identified environmental issues (see Sections 4.2.1.1 and 4.2.5). The depiction of 'true life situations' in the stories makes the radio programme attractive to listeners and keeps them listening. The structure for engagement is provided for through the use of questions (see Section 4.2.4).

Another finding from the research is that community radio programming uses expert commentary to engage the listeners in environmental learning. The community engagement takes place mainly through Radio Listener Clubs. The Radio Listener Clubs identify issues and initiate deliberation. In some cases the deliberation is influenced by the questions raised by the radio producers. These deliberations later call for expert commentary to challenge the conventional practices and provide advice, which contributes to the learning process. The listeners then communicate with the radio stations to provide feedback. The significance of this approach is that it allows the community to employ their prior knowledge, including indigenous knowledge (Lotz-Sisitka et al., 2006) about the subject being discussed, before being influenced by what

external people think. It also allows both the community and the expert to reflect upon the discussion topic (Dyball, Brown and Keen, 2007) and engage in negotiation as they consider options to address environmental issues. The evidence from Dzimwe showed that in environmental conservation programmes, the communities speak first, before the expert is called upon to comment on the subject (see Section 4.2.1.2). In this way, efforts by the expert are directed at addressing specific areas of concern to the community.

Through the evidence I found that in community radio the community has opportunities to engage into deliberative learning in groups (see Section 4.2.6). This allows for integration of personal knowledge with the existing knowledge in the field, which is a crucial factor for learning (Le Grange & Reddy, 2007). Similarly, Wals (2007) suggests that contextual solutions need to be co-created and co-owned by those who are attempting to address their environmental concerns. The radio can generate debate using either questions or contexts that create suspense and controversy (see Section 4.2.1.1). The debate brings about learning as people share opinions and experiences. These groups create a network of learning communities which provides opportunities for clarification of local issues and possibly significant practice change. Therefore radio practitioners and other educators need to encourage group learning in environmental education radio programming to generate debate.

The evidence shows that in the Livingstone Museum people learn mainly through exhibitions which they visit individually or in groups (see Sections 4.3.1 and 4.3.2). When people tour in groups, there is limited interaction between the group and tour guides, as well as among group members. The aspect of group learning is currently missing in the museum education approaches at Livingstone Museum. As such, museum education at Livingstone Museum seems not to provide for enhanced social learning among the audience as well as between the museum educators and the audience (see Sections 4.3.1 and 4.3.2). This is in contrast to the observation by Dyball, Brown and Keen (2007) that environmental problems demand cooperation between a number of groups operating at different levels in the community.

The study has also shown that whereas the Livingstone Museum has personnel that can undertake environmental learning activities, its current approaches through exhibitions and lectures are authoritative and do not provide much room for interactive forms of audience engagement with museum staff. This was seen through the environmental messages that are displayed in the galleries (see Figure 2) where visitors are expected to see and possibly read the brief messages provided. Even through lectures, the approach is that the educator delivers the "knowledge" to the audience (see Section 4.3.3). This could be a contributing factor to the low visitations especially by the local people who may not find many new items to keep attracting them back to the museum. As such, environmental education in museums needs to be challenging to the visitors to make them think beyond everyday life, and consider the underlying impacts of the lifestyles we lead.

Through radio the museum could not only find local contributors to the programming, but could also find wider audiences and increase interest in, and even access to the rich environmental knowledge in the museum. This potential was illustrated in the radio programmes investigated and the discussion in the strategy workshop (see Appendix 5)

Despite the unanimous agreement at the strategy workshop that radio and museum can work together to foster environmental learning, not all radio programming is suitable for environmental education. For instance, the use of campaigns (Jamison & McAnany, 1978) as a strategy would not be suitable because they last for a short period and focus on delivering specific messages. This approach does not encourage debate (see Section 2.6). This means that both the museum and the radio need to re-focus their approaches to education in order to integrate and strengthen their educational activities. The re-focusing process should include community start-up dialogue in environmental learning. The evidence suggests that community radio programmes that are interactive, and generated by the community, and use the magazine format tend to attract listeners' interest.

In the current design of museum education, the Livingstone Museum waits for people to seek information about what is available in the museum (see Section 4.3.1). On the other hand evidence has shown that community radio stations open up and reach out to the

community in their own locality (see Section 4.2.6). Environmental issues are wider in scale and instead of just being 'brought' into the museum, they could be addressed by the museum and the community within the communities, which could then address the issue of relevance of environmental issues to the community (Hooper-Greenhill, 1994; Dyball, Brown & Keen, 2007). This approach can significantly reduce the cost of museum outreach activities, and also has the potential to improve museum visitations, which could be the subject of future research.

This study has shown that both the museum and the radio have strengths and weaknesses with regard to efforts towards addressing community environmental concerns. It has also shown that the weaknesses of one institution, if complemented by another, could make both institutions effective in addressing environmental issues. While the Livingstone Museum has the technical expertise in environmental issues, it does not have effective means to reach out to the wider community. On the other hand, the radio has the means. The museum waits for visitors while the radio reaches out to audiences in their own locality for both content generation and listenership. Therefore, working as a partnership in engaging the local community in environment and sustainability concerns would address the institutional challenges of both the radio and the museum.

6.4   RECOMMENDATIONS

6.4.1   Recommendation on museum education

Museum environmental education could be strengthened by a re-focusing that includes community start-up and dialogue using radio listener clubs to strengthen local environmental learning.

While environmental education is a key component of museum education programmes, the current museum approach to environmental education provides limited community engagement, which affects the learning process. The current education approach takes the form of the museum 'taking the knowledge to the community'. This is clear from the use of exhibitions and experts in lectures (see Sections 4.3.1, 4.3.2 and 4.3.3). Based on the evidence in this study I recommend a re-organisation of museum approach to environmental education to focus more on addressing locally relevant issues in the

community with the participation of the local community. The museum should become an encounter space, providing opportunities for the community to critically engage one another to address environment and sustainability concerns, drawing on expertise in the museum. The inclusion of the local community could enhance the relevance of the museum to the community and also create a sense of ownership of museum activities by the community. It could also address the issue of low visitation to the museum.

6.4.2   Recommendation on environmental education through radio

Environmental education activities through radio should work with Radio Listener Clubs to maximise the learning experience.

Education radio programming in community radio context works with the community at grassroots level for both listening and programme preparation purposes. From this study it has shown that group listening encouraged participation in education radio activities (see Sections 4.2.2 and 4.2.6). Radio Listener Clubs have been used to facilitate group learning. During the group learning environmental issues are identified, questions are raised, and responses suggested, thereby providing choices for decision making. Working through Radio Listener Clubs makes it easy to facilitate group action-taking. It also ensures that decisions made by the community have involved some form of consultation among the community members. From this study it has shown that group listening is followed by group discussion (see Sections 4.2.1.1 and 4.2.1.2), which enhances the learning experiences.

This is also supported by the study by Jain (see Section 2.7.2) that group listening followed by group discussion is much more effective than when listening does not involve discussion. I recommend that environmental education programmes through radio could be designed in such a way that the programme content is identified by the community, and the programme should encourage group listening as well as group discussion. The significance of discussion is that certain community perspectives in the community are presented, challenged and adjusted to respond to the prevailing circumstances. Additionally, given an opportunity, communities would raise environmental issues that are relevant and of concern to them.

6.4.3   Recommendation on partnership in environmental education activities

Museum environmental education activities should be undertaken in partnership with other stakeholders.

While the museum has operated mainly as a place-based education institution, other organisations have community structures through which they engage with the community. Environmental issues are wider and require cooperation among several participants. There are many organisations who, in their operations, attempt to address environmental education issues in one way or another. For instance there are non-governmental organisations (NGO) working on agriculture programmes, women groups addressing poverty reduction, and several other organisations that are, in some way, involved. This study has shown that the radio and museum can complement each other through contributing air time and technical expertise (radio) and environmental education experts (museum) (see Section 4.4.3).

The idea of getting into a partnership is aimed at strengthening each other's capacity towards addressing a common concern – in this case environmental issues. Through a partnership the environmental education content will be enhanced and the population reached through radio will be much wider than through conventional museum outreach activities. In this way there will be significant cost reductions in environmental learning activities. It is also one way to encourage longer term sustainability of the learning interactions.

Therefore, in view of the limited resources, the Livingstone Museum should consider working in partnership with other institutions concerned with the environment.

6.5   Proposed strategy for Livingstone Museum media-based outreach education

This study has considered the education practices in both the museum and community radio contexts. One of the objectives of the study was to try and understand these education practices and suggest a way the Livingstone Museum could use radio in its outreach education programmes on environment and sustainability issues. Based on the

views from the interviews and the strategy workshop (see Section 4.4) I have proposed an approach that the Livingstone Museum could use to engage the community in media-based environmental education. It must also be noted that the proposed approach can be adjusted to suit the prevailing circumstances, and not everything suggested will apply at all times.

In order for the Livingstone Museum to address the many challenges that have impacted negatively on outreach education activities I propose that the museum could consider the following in its education programmes:

a. The Livingstone Museum could enter into a formalised partnership with Radio Musi-o-tunya.

b. Identify expertise in the museum: The environmental education radio programs should use technically moderate language to suit the radio audience. The community perspective should be respected, and the technical aspect should be negotiated into the community view.

c. The Livingstone Museum could work with Radio Musi-o-tunya producers to design programmes on key local environmental issues identified by the community (this should include training of museum staff in radio programming techniques)

d. Radio Listener Clubs: The Livingstone Museum should work through existing community structures such as local traditional leadership, village structures, and Radio Listener Clubs.

e. Community environmental issues: Let the environmental issues be generated by the communities themselves. This allows incorporation of learners' prior knowledge, local knowledge, and conventional wisdom, which are necessary factors in meaning-making and change-facilitation.

f. Use questions, drama and stories: Environmental education programs through radio could involve questions, drama and stories and must be interesting enough to keep the people listening.

g. The environmental education programs should use interactive methods such as phone and letters as well as on-site recordings to engage the community.

h. Museum knowledge must relate to community knowledge in order to be relevant to the community.

i. Advertise the radio programmes widely.

j. Provide for repeating the programs during different time-slots to capture a wider audience.

k. Through the radio programmes, encourage action-taking by the community to address environmental issues.

l. Monitoring and evaluation of social learning: There is need to devise a way of obtaining feedback. Audio feedback is ideal because it feeds into new programs, and becomes a motivator to listeners when they learn about other community success stories.

6.6   REFLECTIONS ABOUT THE RESEARCH

I started off this study having some knowledge about radio programming and also the understanding of the operational challenges in undertaking museum outreach activities. As indicated in Chapter 1, I work with both the Livingstone Museum and Radio Musi-o-tunya. As such, one of the biggest challenges was how to step back as a researcher to find out what was going on in my own work environment. I managed to step back, working reflexively and asking questions as independently as possible, and in the process I realised there was a lot more I did not know about the education activities of the Livingstone Museum and the radio stations.

The other challenge arose from the fact that environmental programmes in all the radio stations operated differently due to differences in operational contexts. As such it was not easy to maintain consistency of the interview questions. This was taken care of by the idea of using semi-structured interview questions. In addition some of the education programmes that took prominence in the data generation were not necessarily environmental programmes. They, however, gave a fair picture of educational programming in community radio contexts.

There was also the issue of time available to generate data for the research. The study sites are far apart, and also very far from Rhodes University where I was undertaking the

studies. As such I had limited time in the field. During the data collection it was difficult to simultaneously undertake detailed analysis while in the field due to the limitation of time. However, listening to audio interviews allowed for adjustment of interview approach in succeeding interview sessions.

While the evidence indicates that learning through radio occurs through groups in community radio, it was beyond the scope of this study to find out to what extent learning through radio results into action-taking. However, there were examples of activities undertaken, and linked to some radio programmes (see Section 4.2.8). Therefore there is need to study mechanisms of how to understand the relationship between learning through radio and community actions.

Looking back at the evidence and the whole data generation experience, I am of the opinion that there is a need to devise a mechanism of finding out how much community learning takes place as a result of environmental education programmes through radio.

Among the limitations of this study is the fact that I worked with only three radio stations. I feel working with a larger number of community radio stations would probably provider wider educational experiences from which to draw lessons. Additionally, I feel there should have been more listener groups involved at all the radio stations. In this study it was only possible to involve Radio Listener Clubs at two of the three radio stations due to limitations of time and other resources.

6.7   CONCLUSION

The research has critically analysed how the education practices in a museum (Livingstone Museum) and community radio stations (Chikuni, Dzimwe & Musi-o-tunya) engage the audience in environmental learning. The study looked at the structures and mechanisms employed to invite community participation in environmental learning. To do this, the research drew largely on social learning (Glasser, 2007; Wals, 2007) where all learning involving some form of interaction among people is viewed as social learning. It has also drawn on the description of social learning as "a process of iterative reflection that occurs when we share our experiences, ideas and environments with

others" (Dyball, Brown & Keen, 2007, p. 183). Based on this understanding, one notes that both the museum and radio involve social learning approaches in their education activities.

Since learning interactions in community radio took place at the level of members of Radio Listener Clubs as well as between listeners and experts, one can safely conclude that both hierarchical and co-learning processes (Glasser, 2007; see Section 2.8) are taking place in community radio programming. The resulting situation is that one community learns from another, and individuals equally learn from each other through co-learning resulting from discussions.

It was also recognised that a working partnership between the museum and radio would effectively reduce the costs associated with each institution's education activities, and improve the content of the activities. In addition, the need to work with the community and other existing structures at every stage of environmental learning programming was emphasised. The workshop also emphasised that the use of radio for museum outreach programmes is meant to complement other museum education approaches, and ought to be aimed at enhancing community engagement in environment and sustainability learning.

The underlying outcome of the study is that community radio programming could be used to undertake environment and sustainability learning as a response to paradigm shifts in environmental education practices as highlighted by Lotz-Sisitka et al. (2006) within their locality. Livingstone Museum education approach waits for visitors to seek information from the museum. This creates the opportunity for radio and museum to work together in environmental education. Community Radio is also characterised by active community participation (see Section 2.6.1). However, to effectively employ radio for environmental learning one needs to carefully select broadcasting approaches that are interactive and open to community contributions. Therefore not all radio approaches are suitable for environmental learning.

Following from this study I hope museum and community radio practitioners will find useful insights into the possible use of radio for environment and sustainability education in museums and other outreach programmes.

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8.0. APPENDICES

8.1. Appendix 1: Interview script

RC-1 interview, Chikuni radio
Venue: Chikuni, Zambia.
Date: 5th June 2009.

H: Thank you very much. Yes today, the 5th of June 2009, I am again at Chikuni radio station where we will have a discussion focusing on the research on how the community radio stations are currently engaging listeners in social learning and environmental sustainability concerns. I have a colleague who will tell us his name and what role he plays at Radio Chikuni. Good morning and welcome.

M: Good morning thank you.

H: Yes give us your name and what role you play and who you are at Radio Chikuni.
M: My name is RC-1. I am employed as a broadcaster but in charge of the promotions dept, that is more like the PR section of the radio station, also in charge of music and tape/CD production, and also marketing dept of the radio station.

H: Yes, now tell me about your community radio station, Chikuni, when somebody says Chikuni Community Radio, what are they talking about?

M: When someone talks about Chikuni Radio, you are simply talking about Kazyula Nkumba Muyoba, which is the local Tonga name for the radio station. It started in 2000. The community contributed some materials for the construction, a bit of money and that … then there were fundraising ventures that led to the final establishment of the radio station. So mainly Chikuni radio is a radio station which broadcasts about 80% of its broadcast language in Tonga because of our strict catchment area, which is Chikuni parish. Chikuni Parish spans about just above 50km radius. So that is the main catchment area that is how come we put about 80% of our transmission – when I mean transmission I mean the music we play, the language we use when we are producing programmes, the news, there is more Tonga news than English news, even just the continuity announcers when they are on air much of their time is in Tonga. So when you are talking of Chikuni radio you are talking of a radio station that is within the community and that is there to serve that community in the best way possible and we broadcast on 91.8fm. So we promote our services also through our website on www.chikuniradio.org.

H: Now, who is the owner, what is the ownership like of this radio station?

M: strictly speaking, Chikuni radio is a catholic radio station. So it is owned by Chikuni parish of the Catholic Church. So it is a project of the parish. It came about because the parish has a lot of developmental projects in it. So there was need for that developmental information to reach the people in the quickest possible way and to as much people as possible. So that is how the idea of the radio station was coined. And official ownership, it is the Catholic Church. [Coughs and is choked, we pause].

H: yes we were talking about strict ownership and what role does the community have?

M: ya, so, basically the community is involved very much in programme production, because we have got Radio listening clubs. We have got about 55 Radio listening clubs. The main purpose of these Radio listening clubs is, first of all their establishment, they are within the community – our catchment area. They were already existing clubs that were used under the Chikuni parish development education programme sometime back. So these clubs were already in the parish doing developmental work. So we incorporated them, we trained them on how to do radio programmes; and how to come up with ideas; how to materialise those ideas into a good radio programme so that besides the programmes that we produce as professionals, them they also produce programmes from their community with issues that affect them. So this has been very effective because we have been able to get information from different communities, then where they have concerns which are to have responses we search for experts that respond to their issues, sometimes

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may be the District Commissioner's office, they respond to their issues and things like that. Then we have also got news gatherers that are spread around our community and beyond our catchment area because people feel the need for information exchange. We have got also people living with HIV, the PALS. So initially these people were not so much involved with the programme production in the radio station. We just used to produce programmes on their behalf, but later on there was an outcry from them that it is not good for you to talk about issues that concern us without involving us. So we also trained them in radio production. So they are also able to do programmes. So what we do, we help them at a technical level. We give them the recorders they go out in their communities; they do the recordings, after a few days they bring back the recorder with the recording, then after that another team gets that, and things like that. So even music wise, every Saturday we reserve it for music recording. So people from the community come to record and we do it free of charge.

H: That's very interesting. What would you say are the main educational activities that your radio station is involved in? By educational I mean those that as you tailor them they are meant to create some learning, active learning if you like.

M: Actually we have one very active and successful programme. This is in partnership with the Ministry of Education, which is Interactive Radio Instructions popularly known as Taonga. So these programmes, they are learning programmes more like in schools, but they are interactive radio because the lesson is broadcast on radio. Then the children in the villages in the communities, they have got what we call mentors that guide them in learning. So I think in about 16 or 17 centres that are within Chikuni parish there are some children, I think we have got, if I remember well, we have over 1200 children that are enrolled in these schools across the parish. So that has been the most successful one which is mainly to help the children who cannot afford to go to formal schools … because of may be money, uniform or the distance to the nearest government school. So that has been very helpful, and even the Ministry is expanding that programme into the formal schools because the children that are learning through that interactive process, they also become very interactive; they are very confident when they speak English . They learn quite a lot because they are given so little time to concentrate, and they have learnt to concentrate on what they are being taught. So that has been what has been very successful. We have run from grade one; grade seven they have sat for exams I think three times now, and we have recorded over 90% pass rate in the centres that have grade seven pupils. Then the other ones that are educational ones, we have what we call 'Butonga bwasanduka'. Butonga bwasanduka is a programme that looks at how the Tonga culture has evolved. So we look at what was happening in the olden days; what is happening now; what has been carried on; what should be carried on; and things like that, and just comparing if at all we are better with what we have now as compared to what we had in the past. So that one, our main resource person we have a lady from Pemba Ms kkkk. She has really taught very well and the programme has been running for 5 years now. It has been coming on every week. And the goodness with that programme also is that the woman is very knowledgeable about the Tonga culture, and she hasn't charged us anything. It is just from her own will. We just help her with transport and a bit of money once in a while when we are able to. So that is one of the educational programmes that we have. Then the other educational programme that we have, now it is in the second or third phase, it is the one where we are looking at the environment because you know environmental are quite a complex issue, especially if you are not trained in them, you just talk on the top of it but you really need to go deeper and with a better understanding. So we are doing some programmes with The Environmental Council of Zambia where their main focus is on the Invasive Alien Species like *Lantana camara* and *Mimosa pigra*. *lantana camara*, Tusepo, is mainly affecting the Livingstone area, whereas *mimosa pigra* is mainly affecting the Lochnivar National Park. So we are doing educational programmes that are intended to sensitise the community on the Invasive Alien Species which are good looking but at the end of the day they invade the local vegetation, the local animals and things like that. So that is one of the programmes that we are doing on the aspect of that are really looking at education. Then the other one, it's 'Bumwi buzuba' I will put it also as an educational programme in the school curriculum they have proverbs and things like that. So it is a series which looks at different proverbs in Tonga language, explaining them by way of formulating stories that people would relate to and understand the proverb much much better. I think those are among the major programmes that we do that are mainly looking at education

H: Yes, we will get to focus probably more on the environmental one, but I wanted a clarification on the one under Taonga. When you say it is done through these children that are out of school and then they have a mentor, what range of the grades does it look at?

M: it looks at all grades. … every year we alternate the grades because we can't afford to put from grade one to seven every day. So every year, with the consultation with the Ministry of Education in Lusaka, that is the Educational Broadcast Services, the EBS, … we have grades 1,2,3,4,5,6,7. So like if we start grade 1 this year , next year we will skip grade 1 so that we concentrate on those that were in grade 1 that have gone to grade 2. same with those that were in grade 2, just like that, so that the other year we move back and capture some more and may be we maintain grade three since those that were in grade 2 are now in grade 3 , we maintain grade 3 and things like that. So far every year, from the time we reached grade 7, every year we broadcast four grades. So they have 150 lessons almost same as in formal schools, so that is a duration of about 13 weeks. Then after the 150 lessons for that term, they close like in other formal schools, then, when the formals re-open they also re-open. So what happens is they have radio sets in the communities, solar powered radio sets that are provided for by either the radio station or the Ministry of Education, because there has been that great partnership. So when programmes are being broadcast on the radio station, even in the village, and if we are stranded with power, if we are stranded with fuel for the generator, and we only have enough say for three hours or something like that, we would suspend all other programmes and air those Taonga programmes because we feel they are of great importance because a literate community is the only community which can develop. Otherwise you will have people who are illiterate, they have got good ideas, good opportunities, but because they don't know what to do with the information they would suffer. So that has been the major priority for the radio station; that we educate the children.

H: Ok. That is very interesting. Now let's come back to the one on the environment, the one you worked with the Environmental Council of Zambia. What was the programme formulation like in terms of content?

M: In terms of content, the initial programming was, you know Invasive Alien Species, is still an alien issue to most of us. It is a very foreign thing like you know *Lantana camara*, we used to learn that in school, Tusepo. We know Tusepo but we don't know that they are invasive. So the initial programme format was the environmental council of Zambia would get experts from their depts. From Monze, ZAWA, Livingstone and all the other places. So we would have interviews with them and then they explain the issues on that particular subject. And if the resource person was not able to speak Tonga, but we preferred them to speak in Tonga so that it is easier for the community to understand. So where the resource person wasn't able to speak in Tonga we would have the programmes with translations, that is, using voice-overs. Later on, it was a bit of a success, people got a bit of information because we would get even testimonies from, we used to go even as far as Lochnivar, we talk to the people there and how they are being affected with the same environmental issues there; Lochnivar, Victoria falls there, how the people are being affected. So we even had testimonies from the communities that are being affected with those environmental problems. And then, later on we decided to incorporate a drama so that people can easily relate to the issues, because drama portrays life issues, the way it can be in real life. We did some dramas, a thirteen series drama which ended last year, and people at least they are awakening because I remember , at one time some people came with some shrubs which he said, 'it is growing very fast; very rapidly and it is invading the area, so may be it is also an Invasive Alien species. So can you ask the experts?' And we took pictures of that and we sent to the Environmental council of Zambia and they explained the details that actually that is a natural thing that's how it grows, it is not an invasive … so it showed that people were listening and they were on the look out of such things. So even this year the ECZ has come again this time around with a 26 series of programmes, but this time it is a combination of drama, studio discussion, field recordings, documentaries. So we hope that this series will add a bit of value to the programming we have had because we have also tried to put a component of feedback from the community, so that we try to get to understand what their understanding after their programme, because we felt that may be we might be doing the programmes and only very few are getting the messages. So by way of doing some promotions, some quizzes and things like that, to just gauge the general perceptions of the community on the environmental issues.

H: Ok. It is interesting to see that you are thinking of a component of feed back from the community. Now with regard to this same programme, what would you highlight as some of the topics that were discussed focussing on the two invasive species?

M: Mainly, because this one was mainly tailored for the IAS, the topics that I can remember very well were on the aspects of how to identify the IAS; their characteristics; how to control them. We looked at issues to do with differentiating those invasive ones to the indigenous ones, because there are even some indigenous species that can still invade the other areas because of just their nature. Then we looked at how people should be responsible – the role of the community in environmental protection. We looked at even issues to do with deforestation, aforestation, things like that. We also looked at leadership, that is traditional leadership, on how traditional leadership can help because they are the ones who are quite influential on such things. Because with that it prompted us to have an interview with chief Hamusonde because Lochnivar area, that is his area. So we had interviews with him, even the headmen from that area to talk about the environmental issues, and then at the end of the day we are narrowing it down to the invasive species that are there. So mainly for this one, it has been biased towards the IAS.

H: Ok. Now let's look at the issue of feedback. What were the methods used in receiving feedback?

M: So far what we have used is call-in or write-in, where we ask the listeners to call and send in their feedback, and also where we ask the listeners to write-in responding to the questions that we ask, and also just promoting the programme that they do not necessarily have to wait for questions to come, for them to give any feedback, but also just as they listen on, what has caught their attention? Where they have been left behind, and things like that. But mainly it has been the writing-in, as we ….we haven't really gone in the community to assess how the programmes have been, I think mainly because of the limited manpower, and the number of programmes that we have to produce every day and every week. So we have been limited on to that but the ECZ, they are doing their part because they have field officers, so when they do their field visits, they do some surveys on the radio programme, and they are yet to submit a report to us on how the programmes have been.

H: I was actually going to find out whether you had a direction of where people could send their feedback, whether it is just to the radio or also to the ECZ?

M: We have both, yes, because we give addresses for both the radio station and ECZ, but mainly we encourage them to send to the radio station so that we collectively send them to Lusaka because electronic means are much faster nowadays. Because when you post you never know how long it will take to reach them, and how long it will take to reach the office and things like that. So we encourage them to bring them to the radio station so that we sum them up, we summarise the, then we send to ECZ so that we have an almost instant feedback from them.

H: I earlier on mentioned that you have listener clubs, what is the process of listener engagement like through these clubs?

M: What happens with these listening clubs is, they are sometimes also biased to certain programmes that are affecting their localities because you might find that an issue that is affecting Kayola is different from the issues that are affecting people in Kanchomba, and things like that. So if we have special programmes that we need their attention, we promote these programmes. And they also have radio sets that we give them, so they are able to sit as a group and listen to the programmes, and they also help in giving feedback from their communities. So their communities there may be they give them letters or just talk to them, and then when they come to the radio station they share those letters with us or they tell us the concerns from the community. So that is how we are involving them with the listenership aspects of the programmes. So they are our contacts in the villages, different localities because they stay in there; unlike us we stay in this central part and we can only do on behalf of the community but for them they do it as a community and then they are able to share the information with us. So what we do, every month we meet them, there is someone in-charge at the radio station. So he meets with them every, I think, every first Friday of the month, or something like that. They look at what has been in the last month, and also the other emerging issues that weren't brought in during the month, and we try to plan for the next month, what kind of programming should we do for the next month according to what they have shared with us?

H: That's very interesting. Now, is there a role you would say these listener clubs should have in terms of the production of these programmes? Earlier on you mentioned about how people in HBC can go

and record their own programmes. Now I am trying to think probably is there a difference in the way the two would operate – the HBC, the people living with HIV and AIDS, and the organised listener groups in terms of programme production?

M: Actually I would say there isn't much difference. The only notable difference I think would be that the radio listening clubs are looking at general issues – education, agriculture, health, entrepreneurship – just general issues. Now with the people living with HIV, there main focus is HIV and AIDS related issues. But of late we have been trying to incorporate the two so that even the people living with HIV and AIDS, … the programmes are not just produced by people who are living with HIV, because as we say there are those infected and those that are affected. So it can be that the PALS people are the ones who are infected, the radio listening clubs are the ones who are affected. So what we are trying to do now is to see the best way of having them work together so that … because even HIV affects agriculture, HIV affects education; HIV is more than a disease. It spreads more than a disease so we are trying to see how we can marry the two without bringing any confusion or disturbances from one to the other so that we have programmes that are broad-based. Unlike where you have the PALS people talking, and you know, when people just listen, 'oh! it's the PALS', they shut their radio; 'what is there problem? They are HIV+; I am not HIV, why should I listen to them'; So that we can have people who are not HIV+ per se but just the general membership so that every community member can actively participate in the programmes.

H: Now from the time of conception of the programme idea to the time of reception by the listener, how would you establish that the programme is effective and learning is taking place?

M: aah … mainly… one thing that I personally pushed for was the phone. You see with the advent of the mobile phones you find a grandmother 90 years old has a cell phone in the village, and she listens to the radio. So I advocated for mobile line for the station because you know people were troubling us, they call you, you are home, they call you on a private line, so at least of now the radio station has ZAIN network, MTN network and the landline is for those that are on Cell Z. so mostly what happens, when people listen to a programme, and they have liked the programme, you find they call, requesting for a repeat of the programme. Now when people are requesting for a repeat of the programme it means, at least in my understanding, it means they have liked the programme now may be they were not concentrating the first part, and may be they had just started concentrating and the last part and they feel they have missed a lot. So they request that you repeat, and you inform them in good time when you want to have the programme repeated so that they can listen it and they invite other colleagues to listen to the programme. So mainly that is how we have been able to gauge how people are responding to the programmes, and also they do write-in , because we have got a programme called 'Bbokesi lyaambaula', which is a 'talking box'. Mainly it is a suggestion box which we do every Saturday live. So people write-in and they give different views on the different programmes. So even from those letters that come to that programme we are able to note that, ok, this programme, they have liked. Sometimes they request for … because you know when a programme is also effective, even when a programme is one hour, because it is so effective, people feel it is only ten minutes, but mainly it is one hour, sixty minutes, and they will write-in to say, 'no, can you add some more time to the programme so that we learn more, and things like that. If it is not possible to add more time, at least have another day to put the programme again. If it comes on Monday please bring it again on Wednesday and Friday so that we have more information'. So that is one way also we gauge. So there is the aspect of phone calls, people requesting for repeat broadcast, people requesting for extension of programme duration. So these are the three main ways that we gauge how people are getting the information.

H: How does this affect your planning of your coming programmes?

M: Sometimes it affects us very much because say, if you are producing a thirteen series programme, and may be you are on the 4th one and people request for it … because I remember one time I was doing a programme, I can't remember the exact programme, I had to repeat it thrice, three times. First time it was aired a few people listened to it. Then those few that listened to it requested for a repeat, I repeated it the following week. The following week a bit more people listened to it, they requested for a serious repeat so that more people can also get to listen to it. Then I had to repeat it a third time, and then … it was good for the community but then I lagged behind with the planning that I had. So sometimes what we do is … if it can seriously affect, because some issues are going by the time, the weather and things like that, so if the timing of the content will not be appropriate if we do a repeat broadcast, what we normally do is, instead of

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doing a repeat broadcast on that slot, we find another slot which is free and promote it to say 'ok, this programme will be repeated on such such a day, so if you want to listen to it, make sure you don't miss; if it is at 20hrs, make sure you don't miss at 20hrs on such such a day, that is when we will repeat the programme. But mainly we have tried not to repeat too much because again it can be sensational, because you might just be repeating and forget that you have to produce new and better ideas from the previous programmes. So mainly that is what we do. For some programmes that are really good like 'Botonga Bwasanduka', what we have done, because people were constantly requesting for repeat broadcast, we have two slots now. The first one is on Saturday, 20hrs, that is the original one, then we repeat the Saturday programme on Tuesday at 10hrs, so that those who miss on Saturday can have a chance to listen to it on Tuesday. Then even like the Hamaleke drama, it comes on Friday and a repeat broadcast on Thursday. So those who miss on Friday they listen to it on Thursday. 'Bumwi buzuba' it comes on Tuesday at 20hrs then the repeat broadcast comes on Sunday at 14 15hrs. so those are some of the programmes which people were constantly almost every week requesting for repeats, almost every week, 'no, can you repeat that topic, can you repeat that topic'. So we thought it twice that ok, instead of repeating on the same slot let's find another slot where we will be slotting those repeat broadcast.

H: ok. Now looking at this programme, the talking box, I suppose it is an open kind of slot. You may not have specific subjects to say this is what we want you to write. In terms of the information that comes through this programme, how would you describe the quantities, the numbers of the letters that you receive?

M: mmm … most of the time the letters are overwhelming. They are a lot. I think the programme has been very effective in that some people prefer a neutral, how can I put it, a neutral source of information. Because, say may be instead of writing to a programme say, 'random talk' [mabuka-buka], they write to the 'Bbokesi lyaambaula' because the purpose of Bbokesi lyaambaula is to respond to issues from the community that concern the radio station, the programming, music, and everything about the radio station. So they will prefer may be writing to the talking box, Bbokesi lyaambaula, so that from that programme we are able to respond to their issues and spread them to the programme producers, because sometimes they feel that may be producers are not responding to them as quickly as they want. So they write-in to the programme, so when they write, I am in charge of that programme, when they write to me, what I do is I consult the producers, if there is a concern, 'there is a concern from the community what do you have to respond to it', then after that I will know how to respond to the community through that programme. So sometimes you find that there are just too many letters to finish up, then we just look at the issues and try to prioritise to say ok, this one we tackled it the previous week, maybe we can skip it this time, we have this and that… because we have got diverse issues. Because I remember there was one time someone was strongly condemning some programmes and things like that, the programming, the staff and things like that …. So what I do with the programme, it is live but I don't open the line or ask the community to come live, because you know how tense it can be. Ya, so I produce the programme live, I read the letters live, so what I did like on that aspect, I didn't know how to respond, so I just read the letter and asked the community to help us respond and react to that issue, his concerns, are they founded, are they not founded and things like. It was interesting that the following week almost all the people wrote in reaction to that letter, because they said 'if that person doesn't like the radio', things like that, 'there is more to praise on the radio station than to condemn, now the way he put it, it was like there was nothing the radio station was doing'. So really people were against him and, I felt relieved afterwards to say, ok I didn't have to respond to that, at least the community have responded to the man and things like that. So sometimes we have very sensitive issues which are not worthy putting on air at a certain time, so we just acknowledge that, ok, we have your letter and we are looking into that issue. Sometimes may be the, … what people are trying to push for is equating it to the programme, I think it is on ZNBC, I don't know if it is still there, 'Haabbuzya takolwi bowa', where they respond to various issues. But with that programme, we have strictly meant it for radio business, because sometimes people write-in, hospital blur blur blur, Mukanzubo blur blur, the College blur blur, the School blur blur, these things like that and that… so when they write-in such issues we forward the letters to the relevant institutions, and then we acknowledge that, ok, we received your letter but we forwarded it to the relevant institution, because the programme is just for radio business, we don't want to interfere with others. And we encourage them if they have general concerns, we say, there are various programmes. We have programmes to do with Butonga bwasanduka; we have programmes to do with health; we have programmes to do with agriculture; so if some letters are mainly agriculture oriented I direct those questions to the producer of that programme and ask that producer to respond to those queries

through a programme so that it is more detailed than where may be I just have a minute or two to respond to them.

H: ok. Now as we get towards the end of our discussion, would you say learning does take place through radio?

M: It does very much, because you know in our African set up we hardly read, or hardly find time to read and in most communities in the villages they don't know how to read, so they can't start from anywhere to read. So radio, and these people, majority of the people, their ears are functional, so radio has really been something that people have looked forward to because they are able to listen in the language that they understand and they don't have to sit and read. Because with radio you can have it on your back, on your head, just anywhere, you will be working in your field and listening to the programme and they will be teaching you. Because like the agriculture programmes, even them sometimes they are more oriented on educating the community. So you find that farmers when they go in their fields they go with the radio sets, and they are working there listening to the programmes, and trying to implement what they are being taught, and they offer feedback, they come 'no, you were telling us that this and this and this, but you didn't explain much can you please explain more, we want to learn more'. So I would say yes, radio is offering great education because people are not bothered with reading. They don't like reading, and radio has been something that has been a good alternative for those that not just don't like reading but they don't know how to read and they want to learn, but the best way they have been able to learn so far is through the experts that do programmes on the radio and they try to implement those things.

H: Yes, finally how are your educational programmes funded, for sustainability?

M: eee …How are they funded? Actually most of the programmes that are educational for some reason or the other, they are not funded. I don't know if people feel the, … I really don't know how or why. The only one which is a bit funded, or at least they do pay us once in while, is the Taonga programme, the IRI. This is in partnership with the Ministry of Education. So I would say that one is mainly sponsored by the Ministry of education. But the others, besides the ECZ programmes the others they are not sponsored. They are an initiative of the radio station, and we feel even without direct sponsorship of the programmes, the programmes must run because ultimately it is the community that benefits and we are here to serve the community. So mainly on the educational programmes there hasn't been much luck of sponsorship. So we are down on that aspect. Generally it's all the programmes, not just educational programmes, but most of the programmes they are not sponsored, but because they are of great benefit to the community we feel at least even if we play music and things like that we still have that broadcast time, so it is just as well we produce programmes that are of benefit to the community.

H: I know I had said we were finishing, but probably what would be your view if an institution like say the museum came to the radio for a possible partnership where they indicate they are unable to pay your commercial rates, but they are able to provide the expertise and part-funding towards the programme in a form of a partnership?

M: Ya, that would be very welcome. The thing we consider most is how relevant is the information you want to deliver through the radio? How relevant is it to the community? So that is the basis of it all. So if you find that it is relevant to the community and yes they need that information in the community, then if we genuinely know they don't have enough funds for things like that, we have been able to do such programmes. We run them free, if they are able to contribute something, they are able to contribute something. And also if it is something that we are not so much knowledgeable as producers, we advise that they do a bit of in-house training. Because like the environmental programmes, the ECZ had to do a bit of training to help us understand the issues first, so that as we understand the issues it will be easier for us to produce programmes, even without their help we can be using our initiative and do the programmes. So basically what we look at first is the relevance of that information to the community, and do they really need the information; do they like such information. When we establish that we look at , ok, do we have the resource personnel, if they are able to provide the resource personnel, are the resource personnel only going to speak in English or they are going to speak in our main broadcast language which is Tonga. So if it is in English, it is a bit of a set back because most of our catchment area, they are much more comfortable with Tonga than English. So we also look at that language, and basically if those are clearly defined, the radio station would run the programmes even free of charge or at a minimal fee, just to help also sustain the radio station.

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H: Thank you very much, I am sure people out there have learnt. Unless you have any last remarks.

M: eee ….I hope you help us with funding [laughs]. You sell your research well, because, you know, I don't know who tells people that community radio stations are for villages, when actually the villagers are the people that, you know, need the services of these companies, because they are too much concentrating on the line of rail; people who are already doing well, people who mind their own business and who don't really care of what you tell them and things like that. But people in the community, in the villages they are the ones who are in need of such information, such services and things like that. So I think that is where we in the community radio section have suffered a lot because we have had people say 'ohh, you are in the village, why should we bring programmes there; what will the villagers do with the information, but you know there is urban migration and it's growing and people need to know a lot of information because these are the same people who go to the urban areas where they say 'no our target will be there and they forsake the people that are in the other parts of the country' and, I think people generally haven't understood the importance and the value in community radio stations because community radio stations, you know, they are in the community and serving those particular communities and they have tailored information, tailored programmes for those areas, and I think even just the different level of partnership like you know the museums and things like that, ==we would want to do programmes but we are limited with resources. Resources, they are broad-based there is financial resources, even just material resources, because if I don't understand something I wouldn't do a programme no matter how much you pay me, because I have to understand, I have to feel knowledgeable to talk about certain issues other than just having a set of questions, and ask those questions for the sake of the monies and the likes, ah ah [no, no], because we would want to understand the issues, appreciate the issues and put ourselves in the shoes of the listeners and prompt [with clicking fingers for emphasis] for good information from the people, because community radio stations are not radio stations that are fault finding. They are radio stations that are development oriented.== So everything that they do is not to find a fault in 'no the museum is not doing this and that, no the police is not doing this and that', but looking at the developmental issues. If the museum is not doing that and that, what are the ways that they can help in developing that sector, if the police blur blur, what ….. so mainly we look at developmental issues and not sensational issues where we just want to receive a lot of audience. But we try to at least be of the best service to the community.

H;   Thank you very much. That was RC-1 from radio Chikuni and my name is Henry Muloongo.

M: Twalumba [thank you].

Key to colour coding:

blue = design/format and RLC

Pink = use of questions

Purple = use of drama

Orange = evidence of learning

Green = feedback mechanism

Yellow = challenges

8.2. Appendix 2: Analytical memo - Radio

Analytical memo radio interviews

Category	Brief summary of responses	Respondents
Design/format of educational program	-In planning the programmes we set target audiences, in this case learners and parents - the timing will actually come in as in what time do you think the child is going to sit down and listen to such a programme, depending on what the programme is [about]	RM-1; RM-3;
	-Using magazine format where you include poems, songs, interviews, all from the community -to maintain interest and concentration of the listeners	RM-1; RM-2; RC-1; RC-3; RDI-1;
	The programme is interactive and we ensure that it has a lot of segments for learners' interaction	RM-1; RM-2; RC-1;
	-the program uses three way approach where you have drama, Interactive radio Instruction (IRI) and feedback programme.	RM-1; RC-2; RM-3;
	-the IRI has three phases, the preparation (before broadcast), the actual broadcast and the 'after broadcast' -the children discuss the programme with the teacher	RM-2;RC-4; RM-3;
	Apart from actual content people learn how to listen	RM-1;
	-the program concept is conceived following a formal school syllabus	RM-1;
	-The program may be recorded or transmitted live...they (M.O.E) give us the lessons (programs) from Education Broadcast Services	RM-1; RC-4;
	-we would have interviews with experts who explain issues on a particular topic	RC-1;
	-May include repeat sessions of the same program -education programmes need to run for a long time if they are to have an impact	RM-1; RC-3;
	Why use drama or stories? -To create suspense, generate questions and interest to listen to the programmes.	RM-1;
	-people relate the life in the community to the story in the drama, and the drama is easy to impact.	RM-1;
	-so that people can easily relate to the issues, because drama portrays life issues	RC-1;

	Role of radio producer -to follow-up the issues raised by listeners -Will promote the programme by way of quizzes, promotions, to gauge how people follow the programme	RM-1; RC-1;
	-respond to questions through detailed programmes	RC-1;
	As producers we need to be knowledgeable in order to ask relevant questions on behalf of the listeners -so when we are producing or when presenting our programmes we need to make sure that our programmes are well produced and we know whom we are talking to	RC-1; RDI-1;
	Facilitate identification of issues in the communities they serve	RC-2;
Community radio and language of transmission	Broadcasting mainly in the language widely spoken in the catchment area - what we have done is to come up with our own programmes to suit the context so that we don't just talk from nowhere	RC-1; RM-3; RM-4;
	Why radio? Needed radio to bridge the information gap and transmit developmental information as quickly as possible and to as many people as possible -in order to reach people on a daily basis -to develop especially the poor -the aim was to introduce a channel of encouraging people on how they can conserve the environment	RC-1;RC-2; RM-3; RDI-1; RC-4; RM-4; RDI-1;
	-People hardly find time to read, and in villages some do not even know how to read, but through radio they can listen and learn in a language they understand **Reaching out to many** -for potential partners ... they really need to use the radio station because that is the tool that they can make [use of] to reach other people. ... sometimes for them to reach 5 people and for us [radio] we reach may be 200 000 people - radio is something very powerful. It is a channel that you can speak to a lot of people at the same time	RC-1; RM-4; RDI-1;
Radio and community learning (how do people learn)	**The use of RLC** -we have established radio listener groups, and these can be 12 to 15 people or more -involve community leaders in the radio listening clubs	RM-4;RM-2;RM-1:RC-1;RC-2;RC-3; RDI-1; RM-2;
	-the radio listening clubs are trained in running these clubs; they are trained on how to produce programs, come up with programme ideas and how to materialise those ideas. -a lot of older people are listening but pretending to be doing something, because they are actually learning English	RM-2; RC-1; RC-2; RC-3;

		Radio listening clubs are formed from groups that were already existing,	RM-2; RC-1;
		-radio listening clubs encourage listening in groups, hence learning from one another	RM-1; RM-2;
		-The learners learn through interacting with activities in the program	RM-2; RC-1;
		-After listening to the programme the group discusses the topic, answer questions, raise questions or comments about the programmes	RM-1;RM-2; RM-4; RDI-1;
		-as children listen to a programme at home they then give feedback to the teacher at school about what they learned	RM-4;
		-people relate the life in the community to the story in the drama	RM-1;
		-all our programmes are actually educative	RM-3;
		-we use stories to explain Tonga proverbs so that people can relate to and understand the proverbs much better	RC-1;
		-pupils will learn from elders (parents, guardians) as they listen to the radio together	RM-2
		-when a community has benefited from the program we record and transmit their activities which becomes a motivator for others (learning from others)	RM-1; RC-4;
		-the main objective is to see to it that what they [community] have learned should not just end there but it has to be something that is part of them	RM-4;
		-I think education through radio works, we are seeing more and more fruits of it ... and we are happy to be in this kind of field	RC-;
		-What radio has done is that it has gone to where other modes of outreach may not reach. Learning through radio has empowered those that would otherwise not have any access to education.	RM-1;
		-other listeners ask how the colleagues embarked on developmental projects	RM-1;
		-People pay more attention to what is said on radio('gospel truth') than in person	RM-1;
		Radio linking technocrats with community There is someone who has the knowledge and someone who needs the knowledge to address environmental issues but the two cannot meet (without radio)	RM-1;

	Facilitation of learning -radio sets were sourced and distributed either by the radio or other partner organisations to schools and the community to listen as groups; -so even if they don't have radios [at home] they come together, they listener through those donated radios	RM-1; RC-1; RC-4; RM-3; RM-4; RDI-1;
	-A teacher or mentor listens with the children and guides them to ensure that they follow the radio program	RM-1; RC-2;
	-those mentors are trained in IRI methodology -it is not just broadcasting, you need to have a link of support for the mentors, coordinators ...	RC-4; RC-3;
	Value of community radio -they are in the community serving those particular communities and they have tailored information, programmes for those areas -... radio is the most powerful tool to disseminate information - ... community radio is unlike national or private radios ... because community radios go direct to the people who can listen to the information and use the information accordingly	RC-1; RDI-1; RDI-1;
	-there is a lot of learning through radio and that is what we want to do-put a lot of effort in all areas like HIV, agriculture, civic programmes ...	RC-3;
Role of community in radio and education programming	-The community actually provides solutions; one part of community suggesting solutions for the other.	RM-1;
	-the community is involved in producing programmes. They produce programmes from their communities with issues that affect them.	RM-1;RC-1;RC-3;RM-3; RDI-1;
	-it is the communities themselves that choose the people that are going to mentor the children	RC-2; RC-4;
	-the community listens, discusses and acts upon the messages from the radio	RM-1; RM-2; RDI-1;
	-the RLC are our contacts in the community;	RC-1;
	-some are news gatherers ... who report whatever is happening there; We get feed back through news gatherers, radio listening clubs, and centre support committees	RC-2; RC-3; RM-4;
Feedback mechanisms	-we receive feedback through listeners writing letters	RC-1; RC-2; RC-4; RC-3; RM-3;
	- phoning the radio stations -by listeners coming to the radio station in person	RC-1;RC-2;RC-4; RC-3; RM-3; RM-4; RM-3;
	-through letters when listeners respond to questions in the programme or ask questions	RC-1;

	-we have a programme meant to respond to issues from the community about the radio station, programming, music, etc	RC-1; RC-2;
	-Through field visits by radio staff; we also as radio ... come up with a programme to go and visit these listener groups	RM-4; RDI-1;
	-By RLCs filling in a questionnaire provided by the radio station after listening and discussing the programme, which the radio collects	RM-1; RM-2; RM-3;
	-through specifically designed programmes for feedback. The programme features village experts, community experts and technocrats to answer questions raised from the other two programmes	RM-1; RM-2;
	-Through reports from news gatherers, centre support committees	RC-4;
What is the evidence of learning through radio? Impacts?	-you go out to the communities to look at the benefits such as enrolment levels, attendance, new projects since the start of the program	RM-1; RC-1;
	-following a programme of invasive alien species, a listener brought a plant to the radio that he thought was also invasive-a sign that he had learned from the programmes	RC-1;
	-in the radio school centres we have recorded over 90% pass in national examinations	RC-1; RC-2; RC-3;
	-sometimes we give quizzes, we make centres compete	RC-4;
	-now even people like village headmen who are 50, 80 years old, like one of them sat for grade seven (national examination) last year and he made it to grade eight.	RC-2; RC-4;
	-the learners from radio schools who went to secondary school got positions of responsibility because and are performing well	RC-3;
	-like in Chikuni parish a lot of children (from radio schools) are able to read and write -..the impact is ... I don't know how I can describe it, but very good, excellent, if I may say. For instance there is a pupil who is doing her grade five and was listening to the EDC programmes [life skills – Our family] and the parent in the house is sick, ... this child is able to tell you what is wrong in their home. *'... I was talking to my father he has actually prepared a will for us ...'*	RC-2; RM-3;
	-there are times when the radio teacher is telling the children to do something and the children are able to it even without the help of the mentor	RC-4;

	-As a group they (club) sit after the programme and start discussing issues raised in the programme, then right comments or questions or answer questions	RM-1; RM-2;
	Listeners ask for a repeat of the programme, or extension of the duration, or a second slot of the programme within the week	RC-1;
	-children who almost stopped school have gone back to schools after listening to radio programmes -from the kind of feedback we have gotten from the community we actually know that such programmes are actually encouraged, and I think they are doing something to the community	RM-1; RM-2; RM-3;
Challenges in community radio programming	- Most education programmes are not funded but we continue running them for the benefit of the community -inadequate equipment for programme production -inadequately trained human resource in specific technical fields -making programmes that are relevant to the community and make them feel they are part and parcel of the programme. -we need to sensitise the community because sometimes they are even scared of coming o the radio station. And even ourselves as radio staff we need to be visiting the communities -use of the same resource persons When we write funding proposals, we don't know who to give	RC-1; RM-4; RDI-1; RDI-1; RM-4; RM-4; RDI-1; RDI-1;
	-some resource persons are unable to speak the local language (of transmission)	RC-1
	Even when we have no sponsor the radio has air time, so it is as well we produce programmes that benefit the community other than just playing music. -use of magazine is effective but very expensive to maintain	RC-1; RDI-1;
Partnerships in educational radio programming	-Education radio programme is funded by USAID through a project called QUESST, under Education Development centre (EDC)	RM-1; RM-2; RC-1; RC-3;RC-2;RC-4; RM-3; RM-4;
	The education programme is undertaken in partnership with the Ministry of Education **Possibility of providing air time?** -somehow yes, because we also look at our own objectives as the radio station. ... I will give an example of development, if a person comes with a programme on development ... even us we need a programme like that. But if people come with other objectives ... that one we can make them pay because it is not within the objectives	RC-1; RC-4; RM-4;
	What we consider is the relevance of the programme content to our listeners. Once that is clear we can accept to run the programmes	RC-1; RC-2;

	-as you can see we are housed in LMNP and we do not pay anything ... we do assist LMNP to air their programmes	RDI-1;
How is museum education undertaken?	Permanent exhibitions Temporary exhibitions Outreach programmes	
What are the challenges in museum education at Livingstone museum?	Finances Limited human resource	RC-1;
Community radio sustainability and, volunteers	-we use knowledgeable resource persons who volunteer to work with us	RC-1;
	-There are news gatherers that work on voluntary basis, and were also trained by the radio station	RC-1; RC-3;
	-and like the mentors we have they are not paid, it is purely voluntary	RC-2;
	-With or without funding education programmes go on because it is the community to benefit (people volunteer to work) -but then this year EDC's project is coming to an end but we hope that as a radio station we will continue with such programmes because we have noticed ... need to help the community develop... .	RC-1; RC-2; RC-3; RDI-1; RM-3;

Key to the coding

RM = Radio Musi-o-tunya

RC = Chikuni Community Radio

RDI = Dzimwe Community radio

Figures are numbers assigned to interviewees.

8.3. Appendix 3: Analytical memo – Museum education practice

Category	Brief explanation/sub-category	Respondent/source
Museum education through exhibitions	• Mainly permanent exhibitions within the museum	MI-1; MI-2; MI-3
	• Sometimes temporary exhibitions, but lasting limited time, and on specific subject	MI-1; MI-2; MI-3
	• Waiting for visitors/audience	MI-1; MI-2; MI-3
	• Planned and executed by museum experts	MI-1; MI-2;
	• Objects displayed with captions mainly in English	MI-1; MI-2; MI-3
	• Limited community participation	MI-1; MI-2;
	• Visitors tour on their own	MI-3
Museum education through lectures/ talks	• Mainly for school groups that come to the museum	MI-1; MI-2; MI-3
	• Museum experts present the lecture, sometimes with the help of objects	MI-1; MI-2; MI-3
	•	
Education through Outreach programs	• Content planned by the museum	MI-1; MI-2; MI-3
	• Used school cases as well	MI-1; MI-2; MI-1; MI-2; MI-3
	• Currently not in use due to poor funding	
	• Materials delivered to the community	MI-1; MI-2; MI-3
Museum education through radio	• Meant to sensitise the community on museum operations	MI-1; MI-2; MI-3; MD-1; MD-2
	• Involved interviews with staff (recorded)	MI-1; MI-2;

	• Generated interest from the community •	MI-1; MI-2; MD-2; MD-3
Challenges in Museum education practices	Low visitation Fewer visitors to the museum	MI-1; MI-2; MI-3
	Inadequate funding • Reduced government funding	MI-1; MI-2; MI-3
	Inadequate and • Frequent changes in education officers; • Lack of coordination between research & education staff; • Ed activities dependent upon individual interest;	MI-1; MI-2; MI-3 MI-1; MI-2; MI-1; MI-2;

Key coding

MI= Museum interview of member of staff

MD= Museum document

8.4. Appendix 4: Preliminary issues presented at strategy workshop

1/10/2009

A. **Issues observed so far in the recordings (data)**:

1. Radio programme format – the three radio stations use various formats for their programmes which include magazine (short play/drama; music; interview)

2. Programme preparation (approach) – through interviews (live) on radio with provision for listener participation by phone;   -through in-studio recorded interviews; -through field recorded interviews of experts (responding to concerns from previous programmes);   -through recorded discussions of radio listener clubs

3. Interactive Radio Instruction – for radio schools programme
   -under this approach there is a radio teacher and a mentor/teacher, and the teaching is done collaboratively – the field teacher following and assisting the learners to follow what the radio teacher is teaching.

4. Community involvement:
   -through radio listening clubs; through radio schools; through telephone, letters and visits to the radio stations

5. Learning through radio:
   -through discussions as radio listening clubs
   -through responding to questions that come alongside the radio programmes
   -through the questions by teachers/mentors after the IRI programmes
   -through community to community communication (communities learning from each other through radio) by recording what goes on in the communities and broadcasting to a wide community
   -modelling- through the drama presenting specific behaviours, radio listeners have their practices modelled.

6. Feedback mechanism:
   -through feedback forms; -through telephone; -through letters; -through walk-in visits to the radio; -through radio news-gatherers; -through community recorded programmes (where the community records their concerns and pass them on to the radio producer)

B. **Museum education practices**
   -education through permanent exhibitions;   - through temporary exhibitions
   -through 'outreach programmes' (which currently are not being undertaken)

C. **Challenges in museum education activities**
*currently there is low community input to the existing education activities

*there is museum-visitor challenge because of the difficulty to change museum exhibitions
*there are no outreach activities, hence very little environmental education, due to low funding

D. Challenges in radio practices
*low programming and as such more music played on radio to take up the space
*inadequate community recordings due to inadequate funds
*No environmental programmes due to inadequate expertise in some radio stations
*the challenge of access to environmental experts for recording EE programmes

8.5.   Appendix 5: Group reports from strategy workshop

Group reports from strategy workshop (Radio & Museum staff)

Overall question: How can museum outreach and community radio programming be partnered in environment and sustainability learning?

Question 1:

> ➤ **is it possible that the Radio could work with the Museum to prepare educational programs? If so, what should be done? Why should it be done; and how should it be done?.**

(a)-The two institutions should come together to discuss and plan ways and means of partnering.

- Each party should understand the needs and operations of the other.
- Involve the local community in planning the partnership. (SG 2)

(b)- To promote the operations of both institutions for the benefit of the Community(SG 2).

- Enhance sustainable development in the exploitation of local resources, including the preservation of culture (SG 2).
- To compliment the skills and expertise of either institution in achieving their goals. (SG 2)
- To attract local and international donor support.

(c)- Holding meetings and workshops.

- Establishing key resource persons in both organisations(SG 2).
- Coming up with binding official agreements to ensure continuity.

(a)- Identify the education needs (SG 1).

- Design the methods of giving the education (SG 1).

(b)- The reach will be extended.

- The method of radio and the Museum working together is cost effective and faster (SG 1).
- It can be made interactive (SG 1).
- Need should be identified to avoid disseminating inappropriate information.
- So that the most effective and result-oriented method is employed(SG 1).

(c)- Identify the communities and their information needs. (SG 1)

- Interaction of radio and Museum staff and the community (SG 1).
- Conducting an Information Needs Survey.
- Drawing syllabus/curriculum.
- Producing radio programmes as per designed methods.

b)- Identification of what kind of Programmes (SG 2).

- Identify the human resources required.
- Reach out to the communities with correct information.
- Sensitise the communities with correct information.

(c)- Identify the requirements (SG 2).

-Joint projects.

-Creation of linkages between/among the groups (SG 2).

-Dialogue with radio station in relation to the educational programme to deliver to the community. (SG 3)

- To make the radio station we have identified as a Partner in the deliverance of our educational programmes we want to be highlighted as well as its objectives.

–To make the radio station a mouth piece to speak for the Museum as a memory for the people regarding its history in the context of its environment etc.

- Identify target groups and design appropriate programmes in conjunction with the (community) radio station. (SG 3)

(b)- By visiting the community to find out their areas of concern. (SG 3)

QUESTION 2:
  ➢ **Is it possible that the museum can work with the radio to engage community in environment and sustainability issues? If so, what should be done? Why should it be done; and how should it be done?.**

(a)- Both organisations should meet to discuss how they will complement each other.

- Identify other stakeholders engaged in environmental issues and involve them.   - Local leaders(Political/civil) should be part of the planning. (SG 2)

- Sensitisation of local community on environmental issues.

 (b)- To foster environmental education for sustainable development. (SG 2)

- Create public awareness on the state of the environment.

- To bring about behaviour change in the people concerning the environmental exploitation (SG 2).

- To foster environmental conservation practices and influence other stakeholders to come up with rehabilitation programmes.

(c)- meeting and workshops.

- Education broadcast programmes(radio). (SG 2)

  - Involve other stakeholders(consult).

- Involve local community in the programme planning (SG 2).

(a)- Create awareness of the issue.

- Establish community/ radio/ Museum relations (SG 1).

- Start structured information dissemination programmes. (SG 1)

- Solicit feedback. (SG 1)

(b)- For environmental conservation purposes.

- So as not to catch people by surprise.

- To encourage acceptance/ co-operation and participation of community members (SG 1).

- To continually provide beneficial information to the Community.

- To weigh the impact of programming.

(c)- By identifying key people and existing structures in the Community and introduce the subject (SG 1).

- Start awareness messages through radio in effective languages.

- Start producing programmes and indicate broadcast times or frequencies.

- Include questions at the end of programmes which should at least raise controversy.
(b)- Identify environmental problems/issues that are faced by the community.
- Identify stakeholders.
- Identify the programmes.
(c)- By carrying out a research on the target groups.
- Create channels of information flow (SG 2).

Identify environmental issues to be addressed and contact the radio Station after which the two could draw up the programme of action (SG 3).
2.- To educate the public the importance/significance of environmental issues on their present and future well being.
3.- By engaging the community on the issues that affect the community know that they can be highlighted through radio (SG 3).

Question 3:
> **Is it possible for the Museum and the radio station to work together to reduce the cost of Education programming in both the Museum and the radio station. If so, what should be done? Why should it be done; and how should it be done?.**

(a)- Work together.
- Drawing up agreements.
-Project proposals done in partnership to solicit financial support.
(b)-Calls for cost sharing.
- Improve production and programming (SG 2).
- Enhances programme sustainability (SG 2).

(c)- Co-opting other partners.
- Providing advertising space.
(a)- The Museum should structure its physical educational programmes into radio programmes to ensure a bigger reach with much less resources (SG 1).
(b)- With less costs more can be done.
- Because it gets rid of other costs of transport, accommodation, time and human resource (SG 1).
- You get feedback in large numbers over short period of time(through phones, letters etc). (SG 1)
(c)- The Museum and the radio can come together to structure the Museum educational programmes into radio programmes.
- The radio can assist to write the programmes for radio audiences from those live audiences. (SG 1)
- More programmes can be produced in advance all at once.
(b)- Cost sharing should be done (SG 2).
- Joint resourcing.
-Taking advantage of existing opportunities.
- Identify key contacts.

-Identify other stakeholders to see how they could contribute (SG 4).
-The lower the cost, the higher the chances of sustainability (SG 4).

SG 3: -museum has not been able to do outreach programs. By introducing radio programs people will listen and know what the museum is doing (activities) (SG 3).).

- Learn about deforestation through radio programs. Museum can reduce on costs by not physically going out to the communities by simply broadcasting the museum programs (SG 3)..

- Musi-o-tunya Radio coverage statistics is about 65000- good. The use of a radio station to reach out to the community is effective (SG 3).

- Museum radio program: a complimentary program. Museum continues with other visual and tangible exhibitions (SG 3).

- Cost will be cut down using radio programs (SG 3).

- Creation of dialogue, partnerships between two groups – museum and community (SG 3).

* language of experts needs to be brought down to the level of the community
*radio has been dealing with community and understands the language of the community.

Key to coding

SG = group in strategy workshop

Numbers 1, 2, 3 & 4 allocated to each group

8.6. Appendix 6: document analysis schedule

Document analysis schedule
Title of document: National Museums Board, Livingstone Museum Annual report,
January to December 2006;
Date reviewed: October 2009

Content reviewed	Data	Critical comments
How is museum education undertaken?	**Lectures/talks** -'... talks to the Linda Secondary School Wildlife Conservation Club' (p. 9)	Through this method the museum is only able to attend to very few schools that are within town. In this case only one school club was benefiting from the environment and sustainability learning that was undertaken. The learners had to come to the museum once a week for the lessons.
	-'the museum covered the Lwiindi ceremony of the Toka-Leya of Chief Mukuni' (p. 9).	In the case of covering the ceremony, there is no community education taking place at the time. However, if outreach activities are undertaken, the collected information can be very useful for the education of the public. One way to disseminate such messages is through community radio.
	School tours -325 learners from local basic schools toured the museum for education purposes (p. 9) -one university group, and one college group toured the museum (p. 9).	The visitation by this number of learners and institutions of higher learning is a challenge to the museum to find means and ways of reaching out to many more people that need its services, and radio is such one option.
Challenges in museum education	**Transport** 'as it is the museum has no transport for field excursions and outreach programmes'(p. 11). **funding** 'the transport situation compounded by the diminishing budgetary allocations would result in a generation gap in the museum collections' (p. 11) -'the funding levels continued to	While transport is a challenge for the museum operations, other methods of undertaking educational activities need to be sought to ensure continuity of the education programmes -the continued reduction in funding levels calls for a change in approach to education activities

	be a source of concern for the Livingstone museum. The yearly allocation given by government continues to fall short of the most critical obligations of the institution ...' (p. 13).	in the museum.
Museum long term plan areas	Public programmes: community participation in museum activities; Dissemination of museum activities and findings (p.13).	-the desire to undertake public programmes under circumstances of limited funding requires employing cheap but effective educational approaches to museum education.

8.7. Appendix 7: Consent form

CONSENT FORM

Community radio and museum outreach: a case study of community radio practices to inform the environment and sustainability programmes of the Livingstone Museum

I am a Masters student in Environmental Education at Rhodes University researching on community radio practices and how these could be used to inform the possibility of partnership with museums to undertake environmental education activities through radio. The proposed assessment of data on museum and radio practices will be used to develop an expanded framework for the museum to partner with community radio in outreach programmes.

The objectives of this research are:
1. To explore the past and current museum education practices at Livingstone Museum.
2. To investigate the education practices in community radio (Collective case study of three sites – Dzimwe, Chikuni and Musi-o-tunya).
3. To review the data generated on museum outreach (1 above) and community radio practices (2 above) with a view to developing a partnership for engaging the Livingstone community in environment and sustainability concerns (Strategy workshop).

In this process of data collection, I will uphold confidentiality of all individuals who will take part. The data will be used for the research and to inform further development of the possible museum-radio partnership.

I hereby seek your permission to interview you or request for specific documents in relation to this research. You may withdraw from the interview at any point should you feel uncomfortable.

Thank you for your time.

Henry A Muloongo
Researcher.

I …………………………….. do agree to participate in the research on community radio practices. The research and its objectives have been explained clearly to me, and I agree to support it.

Signature
date: