



**Perceived usefulness of agricultural information sought on-line and broadcast in rural
Mozambique: a case study of two Community Multimedia Centres (CMCs)**

**A thesis submitted in partial fulfilment of the requirements for the degree of Master of
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ABSTRACT

The wealth of information available on the Internet holds the potential to aid development in Africa. In order to be effective, such information needs to be contextualised to respond to local needs and practices. The combination of old and new media can support uptake and improve acceptance of new technologies in developing countries. The purpose of this qualitative study was to investigate the perceived usefulness of agricultural information sought on-line and broadcast via community radio in the two Community Multimedia Centres (CMCs) of Namaacha and Murrombene, in rural Mozambique. The data was generated from focus group discussion, individual interview, document analysis, and observation involving farmers and radio presenters. The study has shown that on-line agricultural information responds to the needs of the farmers because it contributes to eliminate pests and help farmers to make decisions about their activities. The study has also shown that there is a communication gap between farmers, extension workers, and volunteer reporters working at the community radios of the two CMCs. Volunteers have no agricultural knowledge. The problem this creates manifests itself primarily when they try to translate on-line agricultural information from Portuguese into local languages. Farmers have difficulties expressing their problems. Extension workers are not available to act as experts and mediators between volunteers and farmers. A collaborative website focusing on locally relevant content was suggested as a possible improvement.

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ACRONYMS

ICT: Information and Communication Technology

ICTs: Information and Communication Technologies

CMC: Community Multimedia Centre

CMCs: Community Multimedia Centre

Voz Coop: Voice of the Cooperative

SIMA: System of Agricultural Information of Mozambique

UEM: Eduardo Mondlane University

UNESCO: United Nations Educational, Scientific and Cultural Organization

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CHAPTER ONE

INTRODUCTION

1. INTRODUCTION

This chapter introduces my research on the perceived usefulness of agricultural information sought on-line and broadcast via community radio. By asking those who are involved (farmers and volunteers), and by examining agricultural programs, the study makes broader observations about the farmers' and volunteers' perceptions about on-line agricultural information sought on-line and broadcast via community radio.

This chapter introduces the general background of the thesis as a whole. My point of departure is the contextualization of the study where I present the roots of CMCs in the world, Africa and in Mozambique. This is followed by a statement of the problem, motivation, methodology employed, and an outline of the thesis. Lastly, I identify the hypotheses that informed the planning of this research.

1.1 CONTEXT OF THE STUDY

The history of CMCs starts years ago with the “introduction of the first telecentres, known as ‘telecottages’” (Oestmann and Dymond, 2001:3), in Sweden around 1985. The aim was to give better telecommunication access and computer technology to those communities living in remote areas. Due to the relevance of ICT in providing useful information in the world, telecentres experienced fast growth mainly in those areas where the quality of telecommunication was low or the electricity grid was poor (Oestmann and Dymond, 2001).

By 1994, it was set up more than 230 telecentres in developed countries (Oestmann and Dymond, 2001:3). The telecentre became a potential tool for “providing a diversity of services, such as health services and distance education” (Oestmann and Dymond, 2001). As a result, the telecentre's concept was “redefined by the International Telecommunication Union (ITU), and now it is known as a Multi-purpose Community telecentre” (Oestmann and Dymond, 2001), which some writers, like Hughes (2005), refer to as a Community Multimedia Centre (CMC). CMC “means the facility is community-based and offers both telecentre services, such as internet, and other ICT and community radio services” (Daamen, et al., 2008:2).

The Kothmale Community radio is described as the foundation of the CMCs' project. This community radio was "implemented in 1998 by UNESCO, together with the Sri Lankan government" (Hughes, 2003). The aim was to provide useful information which would improve socio-economic development (Hughes, 2003:78).

Since 1999, the Kothmale Community Radio model has been adopted in North and Latin America, as well as Africa (Hughes, 2005). Girard argues that "in North America and Europe there are radios which base their programming on internet material" (2003:9). He (Girard, 2003:9), adds that, with "the interactivity provided by the internet, those radio stations expand their reach."

In Africa, there are currently many Community Multimedia Centres which were established in order to contribute to the socio-economic development of marginalised communities. Many of these CMCs started as community radios and later they were complemented with telecentres, such as the CMC of Segbeya in Ghana. Others started as telecentres, and community radio stations were introduced later, as in Manhiça and Namaacha in Mozambique (Hughes, 2005).

CMCs in Mozambique started with the "establishment of two telecentres in the districts of Namaacha and Manhiça" (both in Maputo province), in 1999 (Gaster, 2000:119). These projects "were initiative of Eduardo Mondlane University (UEM) and were backed by IDRC¹" (Gaster, 2000:120). According to Gaster (2000), the implementation of these two telecentres aimed to extend access to and use of ICTs for those unable to afford individual ownership of the technology.

1.2. STATEMENT OF THE PROBLEM

Community Multimedia Centres (CMCs) are part of the effort by the Mozambican government to support socio-economic development in rural areas through Information Communication Technology (ICT) and improve access to useful information (Politica de Informatica, 2000).

Consistent with its national ICT policy (2000), the Mozambican government seeks to use ICTs to provide relevant agricultural information to farmers. Approximately 69% of the

¹International Development Research Centre

population live in rural areas and depend heavily on subsistence farming (Cruz, 2010; Ministerio da Agricultura, 2007:2). Dedicated websites such as System of Agricultural Information of Mozambique (SIMA) and <iiam.gov.mz> have been set up and are maintained in the hope that farmers will benefit from the information and knowledge available on the internet (Politica de Informatica, 2000).

Defenders of the cyber-optimistic position, like Lwoga (2010:1), explain that on-line agricultural information can give “opportunities to farmers to get useful agricultural information in order to benefit from disease prevention, making right decisions in regarding to agricultural production, and marketing their products.”

In response to the above technologically-optimistic view, Dagon (in Girard, 2003:29) points out that “a large portion of the information available on-line is not locally relevant for people in African rural communities.” As an example, the websites mentioned above provide market price information for main production centres of northern, central and southern Mozambique, but not price differences between Namaacha and Murrombene districts. Within this perspective, technology should be socially shaped in order to respond to the local context and to the needs of local users (Tedre et al. 2006). In implementing ICT solutions in Africa, therefore, it is important to consider if local users perceive technology and on-line content as useful.

In particular, this study aims to investigate the perceived usefulness of on-line agricultural information sought and broadcast via community radio by asking farmers and volunteers what they perceive as useful about on-line agricultural information. It explores the ways in which on-line agricultural information works in order to contribute to the development of agriculture in both districts. To fully explore these aims and concerns, the study looks at the way in which Community Multimedia Centres relates to farmers.

1.3. MOTIVATION

I worked as a community radio reporter at Community Multimedia Centre “Voz coop²” for three months while I was doing my undergraduate studies in journalism. In my field reporting, I covered issues related to agriculture. It was this work environment that

²“Voz da cooperative” which in English means “voice of the members of cooperative”.

generated my interest for this study. The research idea was also influenced by the efforts made by the Mozambican government in setting up Community Multimedia Centres (CMC) to support socio-economic development in rural areas through Information Communication Technology (ICT). According to Hughes and Pringle (2005:1), Community Multimedia Centres give opportunities for communities “to collect, produce, exchange, and disseminate locally and globally relevant content using local, national, and international languages.”

My interest in this study area was prompted by the opportunity to problematize such optimistic assumptions by interrogating the perceived usefulness of agricultural information sought on-line and broadcast by two CMCs in different rural areas in southern Mozambique, by asking those who are involved (local farmers and community radio volunteers). Questioning those stakeholders is worth researching, since it can provide all stakeholders with insights into the role of Community Multimedia Centres in the development of agriculture, particularly in the rural areas. For policy-makers, research like this will provide an opportunity to map out a plan of action in order to make these facilities respond to local users and local interest.

Case studies like this can enable us to make sense of how relevant the Community Multimedia Centres are to the specific contexts of Mozambique. This helps all stakeholders to identify the strengths and weaknesses of these facilities in contributing to the development of the district, and to make recommendations about the way they need to be adopted in order to be explored and to respond to the interests of the communities.

1.4. METHODOLOGY

This study is qualitative in its approach within an interpretative paradigm. Researchers who work within this approach seek to understand a person’s subjectivity because subjective realities are real and should be taken seriously. According to Blanche and Durrheim (1999:123), in an interpretative approach, the researcher tries “to harness and empower ordinary language and expression in order to understand how people read the world in which they live.”

In this study I conducted two focus group discussions: one in Namaacha and another in Murrombene. Also, I had individual interviews with managers of both CMCs. The aim was to get experiences and perceptions of volunteers and farmers and their own account of

agricultural information received. The document analysis includes websites whose aim is to verify the type of on-line agricultural information sought. Finally, on the basis of personal eyewitness accounts of activities at the Community Multimedia Centres, I was also able to take notes of the daily processes and events. The use of multiple techniques has, I believe, enabled me to develop a rounded, in-depth account.

1.5. OUTLINE OF THE THESIS

Counting this first chapter, this study consists of six chapters. Chapter Two deals with the literature review which underpins the study. Chapter Three describes the methods of research, analysis and data collection. Chapter Four outlines the findings, while Chapter Five highlights the discussion of the findings. Lastly, in Chapter Six, I present the conclusions and recommendation of the study.

1.6. HYPOTHESES

In designing my research project, I framed certain hypotheses concerning the existing situation at the Community Multimedia Centres of Namaacha and Murrombene. On the basis of noted patterns within the Community Multimedia Centre sector, I worked from the hypotheses that agricultural information available on-line is indeed useful for local stakeholders. As such, finding what is and is not available and useful, is a key part of this proposed study.

Similarly, I hypothesised that direct communication between farmers and volunteers contributes to increase the perceived usefulness of the broadcast information in the more “interactive” model in Namaacha compared to the more “top-down” approach in Murrombene.

Finally, I also worked from the hypothesis that active and interactive users, farmers and volunteers, can suggest ways of improving the usefulness of agricultural information sought on-line and broadcast via community radio. It is with this in mind that I attempt, in the following study to provide a critical analysis of these particular Community Multimedia Centres in a way that will, hopefully, shed light on what is happening within the sector in those districts.

CHAPTER TWO

LITERATURE REVIEW

2. INTRODUCTION

This chapter first explores the debate around the role of information and communication technology (ICT) for socio-economic development, which is followed by the debate around convergence between old technology (in this case community radio) and new technology. This chapter also discusses the perceived usefulness of on-line agricultural information. The chapter ends by setting out the debates around the global rise of CMCs, CMCs in Mozambique, and Namaacha and Murrombene. The latter are the sites of the proposed study. Particular attention is given to the perceived usefulness of on-line agricultural information sought on-line and broadcast within both CMCs in order to develop both districts.

2.1. ICT FOR SOCIO-ECONOMIC DEVELOPMENT

The role of ICT for socio-economic development is described as crucial, particularly in developing countries. Adeya and Cogburn (2001:6) argue that “ICTs can shorten distances, eliminate hierarchies and geographical boundaries, and reduce operational costs.” Steyn (2011) adds that ICTs can facilitate the various channels of communication available for people to access information. According to Temu and Temu (2006), access to ICTs can facilitate the “transition from traditional production to market-oriented farming.” These arguments are also supported by Lwoga (2010:1) who points out that the intervention of ICT can accelerate development in developing countries because communities can access “useful information and knowledge to improve their activities.” Furthermore, Lwoga (2010:1) explains that with access to important “knowledge and information, farmers can benefit from disease prevention, making right decisions regarding agricultural production, and marketing their products.”

Farmers need agricultural information for social and economic development. In this regard, Lwoga (2010) explained that information is a tool which can contribute to development of individuals and communities as a whole. Giving emphasis to the role of telecentres in the rural areas, Obidike (2011) argues that in these “modern days of

information society, information about fertilizers to combat pests, new techniques, and seeds can be accessed in the telecentres by the farmers to improve their production.” This claim reflects a technologically deterministic approach often associated with optimistic perspectives which state that technology is itself a factor of transformation and has an effect on society (Bouwman et al. 2002 in Snijkers, 2005:2).

In response to the above technologically-optimistic views, UNESCO (2012) argues that the majority of the population who live in poor communities are frequently denied access to the information that they need to improve their condition. The unequal distribution of internet access to people in order to have access to information across the world and within countries is generally called the ‘digital divide’ (Dijk and Jan, 2005:1).

The digital divide is, according to Moyo (in Creeber and Martin, 2009:123), a “gap that exists between people who have access to the digital media and the Internet and those who do not have any access.” According to Moyo (2009:124), “the inequalities in terms of possessing one’s own computer and access to these media has an effect on the access to information available on the internet by the marginalised communities.” This increases and reinforces the existing inequalities. The author (Moyo, 2009) describes the digital divide as geographic, social, and democratic. According to Moyo (2009:124), the geographic divide refers to the “divide which exists at global, national, and regional level in terms of computer and internet access.” According to him, the national and regional inequality reflects computer and internet access in different areas within a certain country. The global divide is the “inequality which reflects differences in access between people living in developed countries and those living in underdeveloped countries” (Moyo, 2009:124).

With regard to the social divide, Castells argues that though there is growing internet access and communication via wireless, inequality in terms of broadband access and skills to operate ICT tends to increase in terms of race, class, age, gender within countries (2009:57). The last category of the digital divide, according to Moyo (2009), is related to the democratic divide. This inequality describes the existence of “people who can use digital media to expose injustice and those who do not have this opportunity.” Most members of rural communities in Mozambique are on the losing end of all these aspects of the digital divide.

Another dimension of the problem is emphasised by Dagron (2003:29) who points out that “90 per cent of information available on the internet is foreign to the local users.” This

reality is also underlined by Dalvit et al. (2011:55) who say that most on-line content is available “in English and often not relevant to rural users and local conditions.” In addition to these problems, Attias and Deflander (in Girard, 2003:66) explain that the information available on the internet “is written in a complex way which is not accessible to many rural broadcasters because the majority are not educated or they have a fairly low level of schooling.” As a result, the terms used prevent many broadcasters from using the content available on the internet. According to Dalvit et al. (2011), “language affects how diverse groups can access and publish information, as well as the extent to which ICT serves as a medium for the expression of their cultural identities.”

Regarding the above scenario, Servon (quoted by Moyo, 2009:124) argues that content that deals with the desires or needs of the marginalised communities on the internet is marginalised. As a result, marginalised communities avoid using the internet because when they “log in, they often find there is no content which is directly related to their daily experience” (Moyo, 2009:124). According to Moyo (in Creeber and Martin, 2009:124), lack “of local content on the internet is a result of non-existence of individuals who can produce on-line content.” As a result, on-line content to address the specific needs according to types or groups of users fades away. This scenario becomes worse because relevant local knowledge and established practice is often ignored during the transition to new technologies (UNDP, 2001 in Dalvit et al. 2011:55).

Research done in Uganda, South Africa, and Mozambique shows that “new” ICT services such as internet and computers available in the telecentres are under-utilised, whilst telephone and photocopying, for example, are used more by the communities (Parkinson, 2005; Macome and Cumbane, 2002). Furthermore, telecentres as facilities to access information and knowledge in developing countries are seen as very expensive by the communities (James quoted by Lwoga 2010).

Although there are inequalities in terms of computer and internet access, defenders of the optimistic position argue that ICTs, if well implemented, can contribute to development of the communities (Chilimo, 2008). Dalvit et al. (2011:44) argue that “ICTs do not create change, but instead, enable change.” In this regard, Kling (2000) argues that the decision to use certain technology is socially shaped and is not determined by the “characteristics of technology but influenced by political, economic, ideological, or cultural aspects.” Tedre et

al. (2006:128) argue in this connection that technology is “not value per se, but only becomes a value when it responds to the needs of a particular group.” Its relevance lies in responding to local needs, local users, and being relevant to culture and community.

Taking this argument into account, combining old technology and new technology constitutes an important step in shaping technology in order to respond to the local concerns by making useful information accessible to the end-users in suitable formats and languages. A combination of old and new technology must also be advanced and communicated through proper channels, and it must be used to browse and broadcast relevant information to local users. In this regard, Heeks (1999, quoted by Adeya, 2002:98) argues “that the poor desire contextualised information which addresses their needs.”

2.2. CONVERGENCE BETWEEN OLD AND NEW TECHNOLOGY

“Old technologies” (Girard, 2003), can be combined with Internet, and such combinations can effectively overcome barriers such as illiteracy, physical access, affordability, while also taking into account oral-based culture.

Little has been done in making new technology more accessible to the majority of the population in developing countries like Mozambique. For example, only 2.8 per cent of the Mozambican population has access to internet (Internet World Stats, 2011). In addition to this, Girard (2003:6) argues that internet demands that the end-users have the skills to use it.

In response to the abovementioned scenario, the combination of new ICTs and old technology (community radio, in this case) has been attributed a key role in providing agricultural information which can contribute to both economic growth and poverty reduction.

Community radio stations are accessible to many Africans who are more dependent on the radio than on new communication media (Megwa, 2006:116). Zijp (1994 in Dick and Nyareza, 2012:495), giving relevance to community radio, underscored that direct communication between farmers and extension workers, though “crucial, cannot fulfil all of the farmers’ information needs, because extension workers are too few in number to cover all the farms.” Radio constitutes an important tool with “highly cost-effective technology to convey information, training, and technology in rural areas” (Zijp, 1994 in Dick and Nyareza, 2012:495). The involvement of rural radio in agricultural extension has shown that farmers

can benefit from the reach and the relevance that rural broadcasters can achieve through participatory approaches (Chapman et al., 2003). According to Sharma (2011), extension workers³ use radio for communicating information which gives farmers an opportunity to acquire information about weather, diseases, markets, and control of crop pests.

Community radio can make important contributions to social development by expanding space and extending access to information to communities in the rural areas (Megwa, 2006:116). Jane (2006) argues that in most “African countries the population speaks different languages, accompanied by high levels of illiteracy.” Community radio constitutes an important tool for getting information because it broadcasts in local languages in response to the local interest and concerns, while national public radio broadcasts focus on national interest and most use the official language, which is not understood by the majority.

The usefulness of the community radio lies on the fact that it does not demand specific skills to get information and it can reach a large number of people. Hendy (2000) argues that “to understand the value of the radio requires close examination of its qualities.” Looking closely at the radio, three major characteristics describe this medium: the radio is blind or invisible, secondary, and a lived experience.

Radio is often referred to as a ‘blind’ or invisible medium because unlike TV, print and the internet, its messages cannot be seen (Crisell, 1994; Lewis and Booth, 1989 in Kanyegirire, 2002:8). The blindness of the radio, as Crisell (1986) argue, “should not be seen as a handicap whereby listeners are disadvantaged because they cannot see, since they can listen in by using their aural skill.” Crisell (1986:246) maintains that radio blindness can enable listeners to “visualize what they hear through the use of their imagination even when they cannot see.” This feature stimulates farmers to be creative in turning agricultural information into knowledge by listening and imagining how to apply it in their activity.

Radio is “a secondary medium” (Crisell, 1986:13). That is, the radio can be consumed by the listener as s/he carries out other activities (Crisell, 1986:13), “in contrast to TV and

³Extension workers are professionals who serve “as an administrative leader and coordinator for formulating, developing, implementing and evaluating agricultural extension programmes as well as developing farmers in managing resources in the rural areas” (Ismail et al. 2008:371).

internet, where full attention is necessary.” Radio as a secondary medium gives opportunities to get agricultural information while farmers are ploughing, which easily facilitates the application of information on time.

Radio’s power as a lived experience makes it a strong transmitter of immediate news and information, particularly within the context of the local community, as national broadcasters do not often cover local news (Crisell, 1994:14). Crisell (1994:14) argues that through the local community radio station, local information, stories, and programmes for development are broadcast. Hendy (2000:2) notes that radio is cheaper and is a portable medium. He adds that the “radio is oral in its nature and it bypasses the question of literacy for many developing countries.” For example, in Mozambique, most people live below the poverty line so they cannot afford television sets, so community radio is more effective for accessing agricultural information.

Beyond the above characteristics, Girard (2003:7) argues that while the “landline in Africa is accessible for only a few people, most homes in rural areas have a radio set.” He adds that, some years ago, Africa had very few independent (non-state) radio stations, but currently there are many and most of them were set up in rural areas in order to provide information to rural people. Those radio stations are major sources of useful information related to market news and they also constitute the voice of the community against opportunists (Girard, 2003:7). Those radios are used as tools for “the formal and informal education of farmers.” They play a significant role “in safeguarding local languages and culture.” Although Girard’s study reflects the reality of 2003, the reality of developing countries has not changed much. Studies carried out in Mozambique showed that radio constitutes the major source from which the majority of the population, mainly in rural areas, get information (InterMedia, 2010).

In sum, the convergence between both facilities is important in exploring ways to harness the full potential of new information and communication technologies. Hughes (2003:1) explains that old forms of information and knowledge acquisition are unsatisfactory to nurture an inclusive knowledge society. As such, in order to make “information available to poor communities, new and rapid mechanisms that give communities access to information and information exchange using different sources are necessary (Hughes, 2003:1). According

to Sharma (2011), these multiple sources allow community volunteers to use the internet to download agricultural information and broadcast it via community radio.

The convergence of new ICTs with community radio can overcome language barriers, because the combination of both facilities can provide a useful support for information and knowledge acquisition for socio-economic development. Zulberti (2003: iii) points out that this will ensure broader access to information, and permit the development of local culture and the development of diversity of languages and formats. So, combining old and new technologies requires a particular set of skills which not many people have. Furthermore, a radio presenter with good ICT skills would also need to be an expert on the particular topic he or she is broadcasting information about to the community.

2.3. NORMATIVE THEORIES OF THE MEDIA

Radical, Monitorial, Facilitative, and Collaborative are the four roles of the media described by Christians et al., (2009). The Radical role states that media must expose the injustices perpetuated by the dominant group. This role depends on the fact that in society there is a “political-economic power structure whose tendency is to produce hegemony of the privileged group over the underprivileged group” (Christians et al., 2009:180). So, within this role “the Journalists must not only expose the injustices, but also indicate the contradictions in such conflicts” (Christians et al., 2009:180).

In the Monitorial role, “the media intervene between events and sources on the one hand, and the public on the other” (Christians et al., 2009:140). Within this process, the media’s emphasis is on surveillance. Christians et al., (2009:141) argue that the “journalists have to scan the environment for information, evaluating and interpreting the information gathered, based on its relevance and significance, in order to inform, educate, advocate, and critique.” In so doing, the media will be able to bark when something is going wrong in the society.

Facilitation, according to Harvey et al., (2001:579), “is a process of making information more comprehensible or easier for others.” In the context of media, Christians et al. (2009:161) argue that media “facilitate the process of negotiation over social, political, and cultural agenda.” They (Christians et al.) add that in this process

the media promote participation and communication among ordinary people and respond to the people's concerns rather than the interest of the government elite and powerful nations. Journalists are seen as active community participants committed to understanding the concrete life of their community from the inside out.

The role played by media in facilitating communication between people is crucial because it allows farmers to express their concerns and opinions in order to develop their activities.

Collaboration is understood as a process by which Community Multimedia Centres of Namaacha and Murrombene and the Mozambican government promote public access to online agricultural information. Collaboration, according to Elgort and Wilson (2011), is a "process in which two or more people work together in order to reach the same goals." According to Christians et al., (2009:197) the collaborative role involves "a relationship between the media and the state." This relationship is built on mutual trust and a shared commitment to mutually agreeable means and ends. The collaboration between state and media depends on the ground and motives for it. In the context of this study, socio-economic development through providing useful agricultural information to the community, especially to those living in the rural areas is the major reason, in which both stakeholders have a responsibility to play a positive role.

2.4. PERCEIVED USEFULNESS OF ON-LINE AGRICULTURAL INFORMATION

Agricultural information sought on-line and broadcast via community radio can contribute to development under appropriate conditions. The on-line agricultural information is not culturally neutral. Jackson (2011) argues that everything involved in the "social world of men and women is made by them, which is what makes it intelligible to them." Although "the environment in which we live is in part constructed of physical entities, beliefs, ideas regarding how we make sense of the environment which we live in are most important" (Jackson, 2011).

Agricultural information sought on-line is there, but it is less important than the rational element which infuses it with meaning (Jackson, 2011). As a result, the thought that is involved in the perceived usefulness of agricultural information sought on-line is more important because it determines its importance in society. Davis (1989) observed that people "perceive a facility or information as useful if it aids them in terms of intensifying their task performance." Taking this affirmation into consideration, ICT initiatives cannot be useful

unless they disseminate contextualised information that is important to the local users. So, agricultural information sought on-line will be considered as useful if it aids farmers in their daily activities and increases their performance.

The relevance of on-line agricultural information must be acknowledged because failure to acknowledge it leads to relevance paradox. According to Charnock (quoted by Waruingi, 2011:3),

the relevance paradox is a condition where interveners do not see the relevance of certain information that is of critical importance for making better decisions. Because the interveners are blind to this information, they do not seek it, resulting in inevitable, unintended, and undesirable consequences from project implementation.

Within this perspective, even if the agricultural information available on the internet is useful, it will not be used because the farmers or volunteers are not aware of it. They may not know which agricultural information is useful, or they may not know if useful agricultural information exists on the internet. Markman (2012:987) argues that one of the implications of this scenario is the passive approach to understanding “they may be unaware of their failure to understand the information.” Markman (2012:987) underscores that the “passive processing might result in a delusion of comprehension.” As a result, they will not make any effort to get information that will help them make the right decision about their farming.

In this study, active participation on the part of the received (farmers) is what differentiates relevance from usefulness. Pechceviski (2012) contends that relevance “is the extent to which some information is pertinent, connected, or applicable to the matter at hand.” While, usefulness is the ability which information has in aiding task performance (Davis, 1989). Based on these definitions, relevance entails appropriateness to the context while usefulness entails actual response to actual needs. The participation of prospective users (farmers) is crucial in ensuring that information is not just relevant, but useful. So, the usefulness of agricultural information sought on-line and broadcast via community is a key for the participation of receivers (farmers).

2.5. COMMUNITY MULTIMEDIA CENTRE (CMCS) AND PARTICIPATION

Combining internet and community radio is value-added to the communities, because community volunteers can seek “information related to many diseases which rural communities do not know how to combat on the internet and broadcast the information via

community radio” (Attias and Deflander in Girard, 2003:60). For example, internet can provide information on insecticides and explain what their effects are and also indicate how communities can use them to combat pests on their farms in order to improve their production.

According to Hughes (2003), the usefulness of combining community radio and telecentres is to maximise the strengths of each technology. The community radio has great potential for enabling local communities to relay local content using local language. The telecentre gives the community an opportunity to use computers to access internet and other digital resources. In order to benefit from CMCs, the WSIS (2003) recommended that “sustainable Community Multimedia Centres should be established by governments and other stakeholders in order to provide public access and basic services which communities can afford.”

Hughes and Pringle (2005) argue that, with CMCs, “communities have the ability to gather information, produce their own information, exchange, and broadcast it.” This is because CMCs “combine global and local information in interactive way using traditional and new technologies” (Hughes and Pringle, 2005). Lievrouw and Livingstone (2006) noted that, with the arrival of new media, “consumers of information should no longer be thought of as passive audiences, but rather as interactive users.” This claim is reflected in a participatory approach which stresses ‘participation’ as a key to the success of socio-economic development projects. With regard to participation, Mmusi (2005:104) explains that participation of the community is crucial because it is “one of the ways community radio develops rural communities.” As such, involving communities in the CMC in decision-making on issues regarding agriculture will empower the farmers in deciding what kind of agricultural information is necessary to develop their activities.

The participatory approach takes into account the difference between the social meanings of development which differs across countries, and urban and rural communities. As a result, any “development project which seeks success must be defined by the people involved in the situation, rather than being identified by people outside of the environment in which the project aims to be implemented” (Sparks, 2007:57).

From this point of view, the involvement of beneficiaries constitutes an important way to achieve socio-economic development. In using media for development, “the role of

expertise or community volunteers is not to tell or teach, but to interchange ideas to facilitate the emergence of approved objectives and methods” (Sparks, 2007:57). This process is achieved through dialogue in which the media become the means of expression of the community. According to Servaes et al. (1996:34), “senders and receivers must have access to the media to participate because only adequate access can make its information needs known.”

Defenders of the participatory approach, like Servaes et al (1996:34), argue that the top-down approach claims that “audiences are passive, consuming uncritically the world view of the experts.” According to this view, the “audience perceive their problem and needs based on the expert rationality” (Servaes et al. 1996:35). The role of the mass media within the top-down approach in development was to help “to create specific kinds of social changes such as the transition to new customs and practices defined by elites and experts” (Servaes et al. 1996:51-52). In this new model (participatory approach), the “focus of communication centres on context, cultural identity of local communities and participation of the community which is crucial” (Servaes et al. 1996:51-52).

The premise of the participatory approach underlines that “journalists should be intellectually free in order to critically analyse the major goals of national development and use rational discourse find a way to solve problems” (Kunczik in Wimmer & Wolf, 2005:2). In so doing, the journalist should be equipped with education and training (Frankin and Mensing, 2011:82). Skillset (2009) adds that journalists or reporters should spend much of their time in the field witnessing and recording perceptions of the people involved in the events. So, volunteers as community reporters should act in the same way in order to “encourage the listeners, readers, and viewers to cooperate vigorously in development and to protect the interests of those involved” (Kunczik in Wimmer & Wolf, 2005:2). It is evident that, to reach socio-economic development, involvement of all stakeholders is required.

Using the Kothmale model gives the farmers opportunities to access on-line agricultural information via telecentres or via community radio so they have an opportunity to communicate with community reporters in an interactive way. In Africa, currently, there are many Community Multimedia Centres that have been established to nurture socio-economic development of poor communities, mainly in rural areas. The aim is to provide community access to the knowledge society.

With a history of over two decades, CMCs are now well established as a platform for alternative tools for socio-economic development in Africa. Through telecentres and community radio, community radio volunteers browse on-line information and broadcast responses to villagers and farmers via community radio. Open lines are made available to allow villagers or farmers to discuss problems, with a view to finding solutions.

2.6. CMCS IN MOZAMBIQUE

Community Multimedia Centres (CMCs) are tools to support the existing efforts by the Mozambican government toward socio-economic development in rural areas through Information Communication Technology (ICT) and improved access to useful information (Politica de Informatica, 2000). Consistent with its national ICT policy (2000), the Mozambican government seeks to use ICTs to provide relevant agricultural information to farmers.

The goals of the ICT policy are to help associations and rural extension in providing up-to-date, online information related to new agricultural techniques; to assist telecentres with their basic training in technology for farmers through internet; to encourage farmers and associations to advertise their goods and sell them through internet; to create a modern Geography Information System (GIS); to create an electronic system to control fauna and national parks, and to establish a model for ICT and communication to help management of the natural resources (Politica de Informatica, 2000). The goals of this ICT policy reflect a technology deterministic approach. Its implementation in the rural areas is not driven by the communities but is driven by the government aim.

CMCs, in Mozambique, were initiated with the establishment of the telecentres of Namaacha and Manhiça (both in Maputo province), in 1999 (Gaster, 2000). Community radio was added to those telecentres, in 2004. Thereafter, as a result of a partnership between Mozambique, UNESCO, and the Swiss Agency for Development Cooperation (SDC), an initiative was “launched whose aim was to have more telecentres providing digital service such as scanners, printers, computers with access to internet and community radio” (Daamen et al., 2008:3). As a result, currently, there are 36 CMCs already established in Mozambique, as listed in Appendix A.

2.7. CONCLUSION

I outlined the theoretical framework which underpins all the arguments developed in this thesis. I presented the debate around the role of information and communication technology as a changing force in society. I also argued that convergence between old and new technology is important in providing an opportunity for members of marginalised groups to access the wealth of information and services available on the Internet.

I pointed out that on-line agricultural information is not culturally neutral, so the contextual element which infuses it with meaning is important. As such, the world views that are involved in community volunteers' and farmers' perceptions determine the usefulness of on-line agricultural information sought and broadcast via community radio. As Davis (1989) explains, people perceive as useful information which aids them in terms of their task performance.

I also emphasised the danger of a relevance paradox, in which interveners are not aware that useful information exists and therefore do not seek it. Lack of awareness of agricultural information available on the internet results in people acting passively in relation to accessing such information (Markman, 2012).

The chapter also outlined the Mozambican government's efforts in introducing Community Multimedia Centres in order to support socio-economic development through improved access to useful information. I pointed out that academics and advocates of CMCs believe that CMCs are an important step in bridging the digital divide that exists between countries or between urban and rural areas.

Based on abovementioned, I have argued that Community Multimedia Centres have the potential to facilitate access to online agricultural information because community radio volunteers can access the information and broadcast via community radio. In so doing, CMC makes on-line agricultural information accessible for farmers who do not have access to computers and internet access.

In the subsequent chapter I will focus on identifying and justifying the methodology that I have selected as appropriate to reach the goals of this study.

CHAPTER THREE

METHODOLOGY

3. INTRODUCTION

The chief focus of my research is the perceived usefulness, from the point of view of community radio volunteers and farmers, of agricultural information sought on-line in the CMCs of Namaacha and Murrombene respectively, in southern Mozambique.

The aim of this chapter is to select, identify, and defend my research paradigm. I underscore what I understand by the paradigm epistemologically and ontologically. An explanation and defence of the methodology which I used follows this. The data-gathering tools, selection of participants, data analysis, validity, ethical implications, and the limitations of the study are also discussed in this chapter.

3.1. RESEARCH PARADIGM

I carried out this research as a qualitative study within an interpretative paradigm. According to Denzin and Lincoln (1994:107), a paradigm is

a set of basic beliefs (or metaphysics) that deals with ultimate or first principles. It represents a worldview that defines the nature of the world, the individual's place in it, and the range of possible relationships to that world and its parts.

Patton (1990:37) explains that the worldview is

a general perspective, a way of breaking down complexity of the real world. As such, paradigms are deeply embedded in the socialization of adherents and practitioners: paradigms tell them what is important, legitimate and reasonable. Paradigms are also normative, telling practitioners what to do.

A paradigm offer procedures for researchers. In this study, it worked as a sifter that aided me to define the landscape of my inquiry. According to Terre Blanche and Durrheim (1999:6), a paradigm is interconnected practice and thought that guide the nature of the researcher's inquiry along three dimensions: ontology, epistemology and methodology. Blanche and Durrheim (1999: 4) argue that ontology specifies the type of reality to be investigated and what can be understood around it. Secondly, they (Blanche and Durrheim, 1999:4) explain that epistemology specifies "the nature of the relationship the researcher

(knower) and what can be known.” Finally, methodology gives the researcher ways about how investigator (s) can know the phenomenon under study.

My study is about the perceptions and experiences of volunteers and farmers with regard to agricultural information sought on-line and broadcast via community radio in the CMCs of Namaacha and Murrombene. My aim is to interpret or explain the meanings and subjective reasons behind the social actions, experiences, aspirations and hopes of the volunteers and farmers. For that reason, this study is located in the interpretive paradigm. According to Cohen et al. (2007:21):

The central endeavour in the context of the interpretative paradigm is to understand the subjective world of human experiences. To retain the integrity of the phenomena being investigated, efforts are made to get inside the person and to understand from within. The imposition of an external form of structure is resisted, since this reflects the viewpoint of the observer as opposed to that of the actor directly involved.

Interpretativists therefore try to understand a person’s subjectivity because they believe that what people think is real and should be taken seriously. According to Blanche and Durrheim (1999:123), in the interpretative approach, the researcher tries “to harness and empower ordinary language and expression in order to understand how people make sense of the world in which they live.” For Cohen et al. (2007), the interpretive approaches “focus on action, and action must be taken as meaningful behaviour because it is intentional behaviour that is future-oriented.” They (Cohen et al. 2007:27) state that actions are meaningful because it is through them we can “ascertain the intention of participants to share their experiences.” Within this process, the focus of the researcher is to understand how people make sense of reality and how this understanding operates in each moment, and compare it with different moments and places. Thus theories become sets of meaning which produce insight and understanding of people’s actions.

From the point of view of the interpretive researcher, the rationality of one person is different from the rationality of another. Taking this into consideration, when two persons talk, the world may not seem to make sense or be rational, because people’s perceptions about the reality are influenced by the environment in which they live, and as such, different people do not see and make sense of reality in the same way. Taking into account that rationality differs across persons; their perception about the reality will differ as well. As a result, there will be differences (such as between people from patriarchal and matriarchal

societies) for instance. Bassey (1995:1) argues that the aim of “the interpretative researcher is to describe and interpret the phenomena of the world in an endeavour to find shared meaning with others.” This is possible with the interpretive paradigm, because in this tradition what the world means to the person or group being studied is critically important (Bassey, 1995:2), and we can understand “people’s experiences by talking, asking questions, and listening to what they tell us about the phenomenon under analysis.”

To carry out a study in which we seek to understand in depth the experience and subjective world does not fit well within a quantitative methodology. Guba and Lincoln (1994:105) point out that in the “quantitative research tradition, the received view of science tends to be based on verifying (positivism) or falsifying (post-positivism) a priori hypotheses, most usefully formulated in mathematical formulas.” A social survey constitutes the research method preferred by the quantitative researcher. It gives access to large amounts of data which are representative of the population, and from which one can generalize one’s findings (Bryman, 1988:11). Furthermore, quantitative methods seek to analyse the causal relationship between variables, not processes (Denzin and Lincoln, 1994:4).

The use of the quantitative method in this study would limit my ability to investigate the interpretation which my participants would make around the usefulness of on-line agricultural information. Within this perspective, this study could not apply the quantitative method because this study takes into account people’s feelings, experiences, and perceptions as real and these must be taken into account in order to understand how people make sense of the environment in which they live. A qualitative methodology seems to be better suited to this end.

3.2. RESEARCH METHOD: CASE STUDY

The arguments which underpin the selection of using a case study as a suitable method of collecting the data come from the literature which I will discuss below, and from the nature and objectives of this study. Yin (1984, in Wimmer and Dominick, 1987:156) 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.

Gillham (2000:1) describes a case study as “one which investigates a unity of human beings activities within their context, to answer specific research questions, drawing on evidence from within the case setting”. A case study constitutes an integrated, circumscribed system, and a phenomenon of some sort occurring in a circumscribed context (Yin, 1984).

Providing access (either direct or indirect) to on-line agricultural information in rural Mozambique is a phenomenon. As such, an in-depth understanding of the local context through a case study is important. Merriam (in Katjaita 2011) underscores a case study as a “product of examination of a social unit by description, holistic, and an intensive analysis of the phenomenon under study.” Accordingly, I emphasise that case study research aims to describe and comprehend reality within a specific setting, which is contrary to trying to correlate and predict the situations.

McMillan and Schumacher (1997, p. 393) argue that the use of case study design means that data analysis describes “one phenomenon selected by the researcher in order to understand in depth, regardless of the number of sites.” Taking this argument into consideration, this study analyses two sites in order to try and capture the perceptions of community radio volunteers and farmers in slightly different contexts. In this study, the cases chosen are two CMCs. I undertook this multiple-case study, since multiple-case study is a group of cases (Guilham, 2000), in order to have each CMC “tell its story” (Cohen et al., 2000:182). The two sites will be compared to assess how differently the process of on-line agricultural information sought and broadcast via community radio operates and how practices influence perceptions and experiences of the local stakeholders. The comparison between cases can highlight similar and central themes that stand out in both CMCs.

3.3. DATA-GATHERING TOOLS

Different types of data-collecting techniques can be applied in qualitative research, such as observation, questionnaires, focus groups, interviews, participation, ethnography, and document analysis (Denzin and Lincoln, 2008:1). I used focus group interviews, interviews, document analysis, and observation.

According to Morgan (in Macun and Posel, 1998:115) a focus group discussion is described as gathering a small group of individuals to discuss a defined theme; the aim of the

method is to make use of individual interaction to produce data and insight. Bakhtin (in Denzin and Lincoln, 2008:376) argues that:

focus groups are little more than quasi-formal or formal instances of many of the kinds of everyday speech acts that are the part and parcel of unmarked social life conversations, group discussions, negotiations, and the like.

A group of people discussing a specific issue is very similar to the above definitions. Hansen et al., (1998:281) argues that grouping people together as a method for data collection captures the way in which participants naturally talk about, reason about, make sense of, and create meaning in relation to identified themes and phenomena. This argument is supported by Krueger and Casey (in Mertens, 2005:245) who point out that focus group discussions are group interviews which rely on interaction within the group. However, Paulis (in Lunt and Livingstone 1996:16) argues that this interaction can be undermined by a false consensus effect which is exposed through small group research into conformity. That is, people in focus group discussions have “an inclination either to move toward a consensus or to change toward unrepresentative extremes” (Lunt and Livingstone 1996:16).

Through the abovementioned argument, defenders such as Mertens (2005:245) argue that trustfulness on interaction between participants is designed to stimulate more of the participants’ point of view than would be clear from an individual interview. Focus group discussion as a technique is suitable in my research since my aim is to know how my volunteers and farmers perceive the usefulness of agricultural information sought on-line and broadcast via community radio.

The focus group discussions consisted of two groups, one of which was community volunteers and farmers of Namaacha, and the other was community radio volunteers and farmers of Murrombene. The selection of two groups was based on what Hansen et al., (1998) argue that as few as two, three to four groups may actually be used (1998:283). The choice of the number of groups is an issue that will depend on the aims of the research and the available resources (Bryman, 1988). In this case study, financial and time constraints made it impossible to manage more than two. I used semi-structured questions for the interviews and the focus group discussion was moderated using an interview guide. According to Kombo and Tromp (2006:93), this instrument is used to ensure that all important issues are covered.

Another data collecting technique that I applied in this study was in-depth interviews, where two community radio managers took part. Cohen et al., (2007:349) argue that:

Interviews enable participants – be they interviewers or interviewees – to discuss their interpretations of the world in which they live, and to express how they regard situations from their own point of view. In these senses the interview is not simply concerned with collecting data about life: it is part of life itself, its human embeddedness inescapable.

My interest in conducting individual interviews arose out of my interest in getting the perceptions of the managers of the community radio with regard to the usefulness of agricultural information sought on-line and broadcast via community radio. The managers within the community radio stations are part of decision-making and they play an important role in how the content must be framed.

Based on the abovementioned, the aim was to get radio managers' opinions with regard to the usefulness of agricultural information sought on-line and broadcast via community radio. In so doing, the individual interviews could generate in-depth information, which can be difficult to get using focus group discussion. The goal of individual interviews, according to Maree (in Katjaita, 2011), is to get rich descriptive information which can help the researcher to understand the participant understands of the social reality in which she/he lives. This technique is suitable when the researcher has open-ended questions which require extended responses and sometimes clarification (Gillham, 2000:62).

A critique of interviews as a method for data collection comes from Adams and Anna (2008:20) who described interviews as time-consuming. Defenders of this method, like Cohen et al, (2007: 349), argue that an interview is flexible in its nature. That is, it allows:

the researcher to adapt the situation to each participant ... enables multi-sensory channels to be used: verbal, non-verbal, spoken and heard. The order of the interview may be controlled while still giving space for spontaneity, and the interviewer can press not only for complete answers but also for responses about complex and deep issues.

Another advantage of individual interviews is a relationship of trust which can be established between researcher and researched, and which, according to Gillham (2000:72), strengthens the richness of the communication that is possible. Through this relationship, the researcher can often get information that the participant would not give in a focus group interview or questionnaire.

Semi-structured interviews were chosen to enable me to explore further information about usefulness of agricultural information sought on-line and broadcast via community radio. In so doing, tape-recording was used in all my interviews with the consent of my participants. Lastly, I transcribed all the interviews.

The data gathering also included document analysis. In this study I came across a limited number of documents. Because community volunteers do not have fixed websites and there is no volunteer assigned to an agricultural program, it was difficult to get such websites in the time available. Conscious that document analysis is a useful precursor to observing and interviewing, I spoke to volunteers in order to get the websites from which they get agricultural information in advance, but I only got the websites at the end of my focus group discussions and individual interviews.

Observation also was included as a method for gathering data. I used a diary to note everything which I saw in both Community Multimedia Centres. Kombo and Tromp (2006:104) contend that, in observation, “the researcher should have a checklist to provide information about actual behaviour to be observed”. In supporting this argument, Bryman (1988:47) adds that it is important for qualitative researchers to counter-check the inferences that are gathered from various data sources. As such, when I was organizing focus group discussions and interviews in both CMCs, I attempted to note the daily operations of the CMC. The observation list is attached as Appendix D.

3.4. SELECTION OF SITES

This study included two sites: the CMCs of Namaacha and Murrombene. Both CMCs were selected because they broadcast agricultural information of which the internet is one source. Such information, in the case of Namaacha, includes cropping strawberries, methods of eliminating pests, and raising animals such as chickens, whilst Murrombene agricultural information is related to land preparation and the elimination of pests. The formal research process was preceded by a literature search for references about CMCs. This included information such as the economic context of the region and websites. During my visit to both CMCs I went to local administration offices in Namaacha and Murrombene to collect data concerning the socio-economic circumstances of the region.

Namaacha is a semi-urban area in Maputo province that is located on the border with Swaziland approximately 80 kilometres away from the southern Maputo province. According to INE (2007), Namaacha district has 41 954 inhabitants with around 10 000 inhabitants living in the town and the rest in rural areas. Their main economic base is agriculture, handicrafts and informal commerce. Shangana, Seswati, and Ronga are the languages spoken alongside Portuguese, the official language. The main form of transport in the district is the private cars called “chapa”, but for shorter distances people also use bicycles and tractors with trailers, or walk.

My initial visit to the CMC of Namaacha took place on 4th December 2011. Since then, on-going communication has also taken place. In this initial meeting, I had clearance from the community radio manager to take pictures and collect information related to the historical background of the CMC. My data collection took place in this site on 20th June 2012.

The CMC of Namaacha is in the premises of the secondary school. It has acceptable security conditions, and there is also a guard. The CMC started as a telecentre and it was complemented with a community radio, in 2004. This community radio operates on the modular frequency 90.5 FM. It covers a 50 km radius, broadcasting 15 hours per day. Also, it has an agricultural program called “Hora do Campones” which means “Peasants’ Hour”, which, at the time of research, was not being aired regularly. Although the program is not aired regularly, agricultural information is aired, based on farmers’ requests. The internet is also used as a source of agricultural information such as cultivating strawberries, and methods of eliminating pests. This information is sought from the internet and is broadcast via community radio within any program on air at the time of request. The schedule of the community programme is available in Appendix B.

Initially I had planned to use the CMC of Manhiça as my second site, but when I visited it, I realised that the agricultural program which it was my aim to analyse was no longer being broadcast. According to the community radio manager, the agricultural program was stopped because those who were funding the agricultural program stopped their funding and the station did not have enough resources to maintain the program. Efforts were made to find a CMC which had an agricultural program with internet as one of its sources. After many calls to all CMCs in southern Mozambique, only the CMC in Murrombene was found to fit.

Murrombene is a semi-urban area located in the centre of Inhambane province. The district borders the Massinga district in the north, Maxixe city and Homoine district in the south, Funhalouro in the west, and the Indian Ocean in the east. According to INE (2007), Murrombene has around 124 436 inhabitants, of which 69 532 are women and 54 904 men. Subsistence farming is the main method of survival for 70% of the population. Private cars are the main form of transport; bicycles are also used, but for shorter distances people walk.

My first contact with Murrombene, my second site, was via mobile phone on 5th July 2012. In this first contact I attempted to find out if they had an agricultural program on air and if internet was one of their sources of agricultural information. After positive confirmation, I went to Murrombene where, after my presentation, I formalized and officially introduced the concerns, aims, goals, and benefits of my research. Official permission to carry out research at the CMC was granted.

Murrombene has a Community Multimedia Centre, which consists of telecentres and a community radio called Millennium FM. This CMC is in Administration Street and operates on the modular frequency 100.2 MHz. It covers a 50 km radius, broadcasts 18 hours per day and has been on air since 24th December 2010. This community radio has an agricultural program called “Programa de Agricultura” which means “Agricultural Program”, where agricultural information is broadcast, such as preparing the land for cultivating cassava, and eliminating pests. This information is sourced from the internet by volunteers. It is broadcast in Bitonga and Xitswa, languages understood by the majority of the population in the districts and alongside Portuguese, the official language. The agricultural information is researched by community volunteers who are students. There are sixteen volunteers, of which six are women and the rest are men. The schedule of the community programme is available in Appendix C.

The CMC is under an association called “Associação Juvenil ACHAMA” and is the brain-child of the Ministry of Science and Technology of Mozambique. In terms of equipment, the telecentre has two rooms, one of which is equipped with two computers with access to internet for the public, and the other room with 10 computers for computer training. It also has a fax, printer, scanner, a photocopier and television. There is also a library.

3.5. SELECTION OF PARTICIPANTS

In both CMCs, appointments and arrangements were made with the community radio manager to establish times for focus group discussions and interviews. The recruitment and selection was based on community volunteers' and farmers' willingness to provide the desired information. I made sure that participants in the focus group had been exposed to broadcasting the type of information considered in this study because it would improve the chances of them having an opinion about its perceived usefulness. The first group discussions, in Namaacha, were made up of individuals that were interested in the activities of the CMC called "Amigos da Radio" which means "Friends of the Radio" in English. The second group discussions, in Murrombene, were made up of individuals who listen to the community radio and use the telecentre. The focus group discussions were held at each CMC where both groups felt comfortable, and drinks and biscuits were served before the discussion started, as is customary in my tribe.

To identify participants, in the CMC of Namaacha, I used any program which was on air, whilst in the case of Murrombene, I adopted a technique of inviting farmers to attend group discussions through a community radio advertisement broadcast during the agricultural shows. I announced through the community radio that I was doing research in ICT for development and I was looking for four farmers to discuss the usefulness of on-line agricultural information sought and broadcast via community radio.

This technique did not work because I could not get any response from farmers that they would come. I waited for them at the CMC on the day on which the discussion should have taken place but no farmers came to the CMC. As an alternative, in Namaacha, I decided to use "Friends of the Radio" who are farmers as well. They were selected based on the fact that they were part of an already existing network of people who knew the CMC and they were part of the group of people who continually call in, looking for agricultural information. In Murrombene I decided to use the main agricultural volunteers to introduce me to farmers and ask them if they would be willing to discuss their perceptions about the usefulness of on-line agricultural information sought and broadcast via community radio. I used this technique in this district because there is no agricultural association where I could go and talk with farmers.

In Namaacha, I had only three community radio volunteers and three farmers for the group discussion. I decided to move on with this number, based on Morley (in Lunt and Livingstone, 1996:8) who argues that three to thirteen participants can be used in a focus group discussion. In Murrombene, I had four community radio volunteers and four farmers. The group discussion was kept to approximately one hour and twelve minutes. With regard to the community volunteers in both Namaacha and Murrombene, there was no specific reporter assigned to cover agricultural information. The volunteers can be assigned to cover whatever issue is important in the district. As such, I included all community volunteers who were available at the time of discussion.

The discussion started with the participants being fully briefed about the aims and purpose of the study and during the discussion, efforts were made to probe further in cases where the interviewees had misunderstood the question. The group discussions were carried out with the aid of a tape recorder and an interview guide. The aim of the interview guide was to keep the discussion within the focus of the key questions (see Appendix E). Interviews with the community radio manager of each CMC took approximately 20 to 40 minutes and were held at the station (see Appendix F, interview guide).

3.6. DATA ANALYSIS

Data analysis involves interpreting the information collected, systematizing it, breaking it down, synthesising it, discerning patterns, seeking for what is relevant and what is the lesson to be taken, and deciding what must be disseminated to others. Maree (in Katjaita, 2011:57) points out that data analysis “is not merely a number of sequential steps, but is an interlinked process of collecting and processing data.” Cohen et al. (2007:461) argue that there are many ways to analyse qualitative data. So, what a researcher does is to respect and frame his/her research according to academic principle. This argument is supported by Maree (in Katjaita, 2011:57) who adds that:

There is no fixed recipe, but broadly there are guidelines to ensure that what you find is credible and trustworthy. Secondly, you have to constantly keep in mind the research questions that guide your study and that you want to answer, as well as the aims and objectives of your study.

Within the abovementioned view, I understood that I had to find my own way to make sense of the data collected. Thus, after completing data collection, analysis and interpretation of the data was carried out. Since the aim was not simply to select readily available quotes,

close to 29 pages were eventually transcribed. After reading through the transcriptions, I went on to code and group the responses in accordance with the main themes (Hansen et al., 278-280). The themes were: on-line agricultural information; lack of agricultural knowledge by the volunteers; language problems; volunteers' fieldwork; farmers' access to the CMC; phone communication; potential of extension workers; potential of volunteers assigned to agricultural program; channels of communication between farmers and volunteers; support for volunteers, and the potential of a local website. The themes were selected, keeping in mind the aim of this study and the research problems.

3.7. VALIDITY

Bassey (1999:43) maintains that data collected by an interpretative researcher frequently consists of diaries and transcriptions, verbal field notes, and reports of discussions. In this study, focus group discussions and individual interviews, document analysis, and observation were methods of data collection. The data collected using these techniques was first collected in Portuguese and translated into English. In translating, efforts were made to capture the meaning of the participants as closely as possible.

Because my major methods for data collection were basically a conversation (focus group discussion and individual interviews) between the researcher and the interviewees, they constituted my first limitation because the meaning which is attached to what is real is often influenced by the environment in which people are living.

During my focus group discussion, I feared that I might not hear and get what was really happening in the CMCs, because in certain instances people perceive researchers as those who come to help them with financial or material support. In addition, there is a sense amongst people in the rural area that people who come to do research are superior to them. These ideas were demonstrated by one reporter in Murrombene when I introduced myself to him and he said, "I know why you are here researching agriculture, because the minister was here two months ago and he was very happy, that is why you here". This perception about relationship of the researcher and the Ministry of Agricultural creates a power relationship between the researcher and researched (Buchbinder and Enosh, 2012). As a result, I was often stopped and asked whether I was there to help them or to support their agricultural activity financially; this happened mainly in Namaacha. To reduce this negative impact, I explained in advance to all my participants that my research was for academic purposes and I

was not sent by the government. On some occasions, I invited some volunteers to have a drink in order to show them I was not different from them.

The second limitation originated from the nature of the focus group discussions and individual interviews. The nature of these techniques requires the researcher to gather data regarding an individual's perception about their experience, his or her beliefs and opinions, and feelings (Best and Kahn, 2006:267). Therefore, some degree of exaggeration and contradiction was expected in the given information. For example, during my focus group discussions and individual interviews, I witnessed an element of apprehension on the part of the volunteers and farmers as if they sought to give the acceptable answer. In order to discover whether what they said reflected what was happening on the ground, further clarification was necessary so the same question was asked in different ways (MacNeil, H et al. 2012).

Despite these three major challenges, I was able to gather rich and pertinent data, and believe that this study will make a substantial contribution to understanding the perceived usefulness of agricultural information sought on-line in both districts.

3.8. TRIANGULATION

To overcome the challenges mentioned above, triangulation was applied. Maxwell argues that collecting data using multiple techniques is crucial because it reduces the risk that the researcher comes up with conclusions which reflect biases. It also allows the researcher to gain a better valuation of the validity (1996:75). Thus, I triangulated the focus group interviews, individual interviews, documents analysis, and observations. Cohen et al., (in Katjaita, 2011:56) defines triangulation as the use of more than one method for data collection in researching some aspects of social reality. Triangulation involves various methods and multiple data to reinforce the strength of the researcher's interpretation (Mertens, 2005: 426).

Triangulation as a technique helped me to look at inconsistencies between what the participants said from focus group discussions and individual interviews, and what was stated in the documents. With triangulation, my aim was to see if there were any contradictions between my focus group discussions' perceptions about certain aspects related to the topic and the perceptions shown in my individual interviews. Using websites, the aim was to see if

what my participants said reflected the kind of agricultural information sought. This process was complemented by my observation of what the volunteers were doing. The aim of combining all these techniques was to link the validity of their perceptions.

3.9. ETHICAL ASPECTS

Mertens, (2005: 33) argues that ethics are an important part in research so must be taken into account in all stages of any study. Therefore, getting permission from both CMCs of Namaacha and Murrombene in order to conduct my research was my point of departure. Permission was granted on the same day. Stake (1994:7) points out that, as a researcher is a guest in others' private lives, his behaviour should be good because lack of consideration of participants can disturb future researchers' access.

As a guest in others' private space, I took into account certain guidelines in order to reduce my impact in my participants' life. The guidelines included honesty, asking for permission to talk with my participants, confidentiality, and using anonymity to avoid future reprisals for my participants, and to protect the privacy of others (McMillan and Schumacher, 1997:418).

In view of these ethical considerations, I have used the institutional name and type of activity of participant for the identities of participants in the CMCs of Namaacha and Murrombene in order to safeguard them from any harm or embarrassment as a consequence of this study. In addition, certain names of places which are easily recognizable in both CMCs were excluded or changed.

Throughout, permission was obtained from my participants and during the discussion it was very clear to the community radio volunteers, radio managers, and farmers what the research purpose and procedures were. I also emphasised that there was no danger or injury involved, since the study was exclusively for academic purposes. I emphasised that they were free to leave the discussion at any time.

Because qualitative researchers deal with topics that imply face-to-face interactive data collection, ethical principles are crucial (McMillan and Schumacher, 1997:418). Cavan (in Cohen and Manion, 1994:359) argues that ethics means being truthful, but respecting human beings' dignity is a healthier guideline. Thus the roles researchers devise must be to stimulate acceptance, cooperation, openness, and trust. For most of my participants, I was a

researcher from Maputo, pursuing a Master's degree abroad and it was difficult to communicate with them freely in Portuguese because, for the majority of the respondents, Portuguese is not a first language so they often made grammatical mistakes in their statements. However, I encouraged them to continue. My efforts to uphold these ethical rules and considerations were driven by my attempt to bring knowledge that would be useful both to the CMCs of both Namaacha and Murrombene.

3.10. LIMITATIONS OF STUDY

In this study, I faced two major limitations. The first one lies in the demands of applying focus group discussion and individual interviews within a context which I am not familiar with because I have not lived there or even worked there. This constituted a limitation because, as an interpretative researcher, what counts is what people say and what they say is influenced by the environment in which they live, and I was not familiar with that environment. This limitation is followed by the limited length of interaction with my participants because I only spent few days in each district. So, in order to overcome this limitation, when I arrived in both CMCs, I went to farming areas to talk with farmers and other people in both districts and establish friendships with volunteers to develop a healthy relationship between volunteers and researcher.

3.11. CONCLUSION

In this Chapter, I explained that this study is a qualitative study within the interpretative paradigm, undertaken as a multiple case study (Guilham, 2000). The study involved two Community Multimedia Centres in Namaacha and Murrombene, located in Maputo' and Inhambane' provinces in southern Mozambique respectively. These CMCs have difference in terms of approach in airing agricultural information. In Namaacha, agricultural information is sought and aired according to farmers' requests, whilst, in Murrombene, volunteers' initiate the search for and air agricultural information they consider useful.

The emphasis of this study was to probe the perceived usefulness of agricultural information sought on-line and broadcast via community radio in the CMCs of Namaacha and Murrombene. I made use of purposeful sampling, to ensure that I selected information-rich cases for an in-depth study. In so doing, I aimed to have an in-depth understanding about

the CMCs of Namaacha and Murrombene without needing to generalise the information to a wider scale.

In order to get an in-depth understanding, I initially intended the CMC of Manhiça as my second site but because the agricultural program was no longer being aired, efforts were made to find a CMC which had an agricultural program with internet as one of its sources of information. After many calls to all CMCs in southern Mozambique, only the CMC in Murrombene was suitable.

Another challenge in getting an in-depth understanding was gathering farmers using community radio. This technique did not work because after airing the invitation for four farmers none of them came. So, in Namaacha, the focus group was made up of farmers who were members of the friends of the community radio and the agricultural program. In Murrombene, efforts were made to go to the farms and talk with farmers.

The findings was generated from focus group discussion (involving farmers and volunteers), individual interview (involving managers of the community radios), document analysis, and observation were analysed thematically (Bassey, 1999). The evidence was presented in Chapter Four and discussed in Chapter Five in relation to the literature covered in Chapter Two.

CHAPTER FOUR

FINDINGS

4. INTRODUCTION

In the previous chapter I discussed how I used qualitative methods within an interpretative paradigm to examine the perceived usefulness of agricultural information sought on-line and broadcast via CMCs of Namaacha and Murrombene from the point of view of volunteers and farmers. In this chapter, I present evidence from the two CMCs under study. The data is based on focus group discussions and individual interviews, document analysis and observation.

The presentation is arranged in two sections. The first section presents the findings in Namaacha and the second section presents the findings in Murrombene. Each section consists of the following subsections: focus group discussion, individual interviews, document analysis, and observation.

4.1. NAMAACHA

4.1.1. FOCUS GROUP DISCUSSION

The focus group discussion in Namaacha was held at the radio station and took approximately one and a half hours, starting at three o'clock and ending at about four-thirty pm. The first group discussions were made up of three community radio volunteers and three farmers. A semi-structured interview guide was used (see Appendix F).

The discussion started with my presentation and the presentation of the aim of the study. Using the discussion guide, I started with the question concerning the participants' perceptions about the usefulness of agricultural information sought on-line. In response, one participant explained that the first time he approached the CMC was when his strawberries were attacked by pests and he used the internet to find a solution. The same participant said the website came with all the information and he saw the problem his strawberries had and went to the shop to buy the pesticides to use. Furthermore, this participant explained that this year he produced strawberries using plastic, a technique he had seen on internet. He summed

up by saying that on-line agricultural information had increased his production this year (2012).

The discussion moved on to who should drive the process of on-line agricultural information seeking. According to the participants, volunteers must play a proactive role; they must use the radio to persuade farmers about the usefulness of internet, but they must also visit the farms and talk to farmers, asking them about their concerns and then use internet to get solutions. One participant (farmer) explained that volunteers can use farmers' associations to discover farmers' concerns and use the internet to browse for useful information to broadcast via community radio.

Farmers made it clear that waiting for farmers to come to the telecentre or call the radio in order to report their concerns would not work because the majority of farmers do not have time: they wake up early and return home late. The radio must alert the farmers about problems because the majority of problems are similar. This concern was explained by a farmer who said that farmers suffer annually from invasions of giant grasshoppers which sometimes affect Namaacha. In such a case, volunteers can browse for information about how to eliminate them and broadcast it to more people by radio. Although volunteers agreed that they have to be initiators of on-line agricultural information seeking, they underscored that a culture of providing information is required because there are few people who give information in the district. According to volunteers, providing information will ensure that agricultural information sought on-line will respond to the audience's interest.

With regard to agricultural information sought on-line which must be broadcast but is not being broadcast currently, farmers said that Namaacha has the potential to become like Nelspruit and that the internet can be a source of information on how to grow fruit because the majority of fruit consumed in Maputo comes from Nelspruit, which has a similar climate. Such fruit can also be produced in Namaacha, so on-line information about fruit must be broadcast via community radio. The assumption is that, with appropriate information, Namaacha could become as productive as Nelspruit.

The participants said that on-line agricultural information related to agricultural seasons is a crucial aspect to be taken into account. One participant (farmer) explained that it was important that farmers be aware of the seasons when to plant or not. As an example, he said that this year (2012) had not been productive because farmers were not sure whether

they had to plant in the first season or the second one. According to this participant, those who planted in the first season failed because there was no rain. This information was available on the internet, but only those who use the internet were successful. Therefore, volunteers must alert the farmers because the majority of people have no access to internet.

The discussion moved on to the perceived problems and the participants explained that the Community Multimedia Centre in Namaacha faced crucial problems which undermined the role of this facility in the district. One major problem was related to the fact that the program was not being aired regularly and agricultural information that was aired was broadcast in response to farmers' requests, which sidelines the majority of farmers who do not have resources to call or come to CMC.

With regard to the volunteers' fieldwork, members of the group discussion explained that the volunteers face serious transport problems in order to go to farms. In addition, the volunteers emphasised that though they face transport problems, they face another problem with regard to the fact that some farmers have difficulty in expressing their problems. In this regard, another participant (farmer) of the discussion group argued that farmers are struggling to explain their concerns, not because they do not know that problems exist but they do not know how to explain them.

Lack of fieldwork by the volunteers also was perceived as a problem which undermines the usefulness of agricultural information. According to some participants, there are not enough volunteers to go into the field since the majority of volunteers are students. In addition to this problem, one volunteer emphasised that within community radio, there is a lack of incentive (salary) for community volunteers. According to one participant, making a good agricultural program requires a lot of energy and if the volunteers are not motivated, nothing will work. The volunteers must walk to different areas in order to compare opinions so if they are not motivated, they will not perform their best.

Another problem the volunteers highlighted during the discussion was related to the problems they face in terms of the language used on the internet which must be translated into Changana in order to make it clear for the audience. Another participant (farmer) said that volunteers faced problems related to their lack of agricultural knowledge which means volunteers are unable to analyse agricultural issues critically. According to one of the

participants (farmer), volunteers must be trained in agricultural issues so they have a basic notion of this area in order to respond to the demand.

The participants made it clear that, in order to overcome the problem, the CMC must be exploited more, because at the moment, it is under-utilised. Another participant said that volunteers must do fieldwork in order to understand the farmers' concerns; this could be done in coordination with farmers' associations and extension workers who are agriculturally trained. Along the same line, another participant suggested that websites, for example the one about strawberries, could be broadcast while a farmer who produces strawberries is in the studio to explain in detail the techniques for cultivating strawberries in the district.

With regard to incentives, the participants made it clear that farmers must contribute a certain amount of money in order to give an incentive to the volunteers assigned to this program to give them the resources to go into the field.

4.1.2. INDIVIDUAL INTERVIEWS

The individual interviews in Namaacha were done after the focus group discussion ended. The interview with the manager of community radio Cascatas took approximately 20 to 40 minutes and it was held at the station. A semi-structured interview guide was used.

The interview started off with an introduction of the aim of the study, though the community radio manager was already aware of this research. After the introduction, the first question sought his opinion about the relationship between farmers and volunteers. According to him, the relationship between farmers and volunteers is not strong because there are not enough volunteers to go into the field and talk to farmers. He explained that the majority of staff who work in the station are volunteers, and they do not have time to go into the field, because they are students.

The interview moved on and I asked what kind of intervention should be done in order to make the on-line agricultural information sought and broadcast via community radio more useful to the community. My interviewee said that transport was necessary to go to farms and talk with farmers and find out their concerns; the internet would be used to find solutions, if there was no local expert who could solve the problem and the solution could be broadcast via community radio. He explained that, because of the lack of transport, even if the volunteers used the internet, the information would not be relevant to the majority of

farmers because it was not based on farmers' concerns. For example, he said that currently, agricultural information is broadcast but it is done when those farmers who live close by and those who can call in request agricultural information.

My interviewee made it clear that they (volunteers) need to work together with extension workers because they are trained and volunteers are not trained in agricultural issues. He explained that due to lack of agricultural knowledge, volunteers struggle with the language used on the internet. The on-line agricultural information available is technical and volunteers cannot easily translate it into local language. Thus, working together with extension workers is important because they can explain in detail the information got from the internet. Another suggestion made by my interviewee was that a volunteer should be specifically assigned to agricultural programs. According to him, this volunteer would work in order to cover all farmers.

According to my interviewee, efforts are being made in order to broadcast agricultural information regularly again. He explained that instead of waiting for farmers' requests, the radio would try to broadcast other types of information about crops such as cucumbers and peanuts because the district also produces them. In addition, he said that the radio would also provide information related to fertilizers. That is, the radio would focus on explaining how to apply them. Other agricultural information emphasised was related to drought-resistant crops because, according to him, Namaacha has water problems and it is therefore important to talk about drought-resistant crops as an alternative.

With regard to the question about who must drive on-line agricultural information seeking, my interviewee made it clear that volunteers must initiate the process. According to him, the volunteer must search for on-line agricultural information and broadcast it. In so doing, the volunteer is teaching the farmers about the relevance of the internet and radio so that, over time, the farmers will realize that information is useful and they will not wait for the volunteers.

4.1.3. DOCUMENT ANALYSIS/OBSERVATION

I came across a limited number of documents because community volunteers do not have fixed websites to get on-line agricultural information. In addition, the CMC has no specific file in which agricultural information is kept.

The analysis of websites was based on three websites. The majority of websites reflect a Brazilian context. They include production systems (see Appendix G), strawberry diseases (see Appendix H), and the nutritional proprieties of strawberries (see Appendix I)

During my research in the CMC of Namaacha, I witnessed volunteers and some people from the community using internet in the telecentre, though they were not getting agricultural information. I also noticed that the internet was very slow. With regard to mobile phones, I noticed that volunteers use them to communicate with friends and talk with an audience when a certain program is being aired. Finally, I could also to see during my chat with some farmers that there is less engagement in listening to the community radio; only those who come to the radio station or call schedule themselves to listen.

4.2. MURROMBENE

4.2.1. FOCUS GROUP DISCUSSION

The focus group discussion in Murrombene took approximately one and a half hours, starting at two o'clock and ending at approximately three-thirty pm. It was held at the station's newsroom. The focus group discussions consisted of four community radio volunteers and four farmers.

The discussion started with my presentation and the presentation of the aim of the study. Using the discussion guide, I explained that I was interested in understanding their perceptions about the usefulness of agricultural information sought on-line. In this regard, one participant of the focus group discussion explained that when he was about to start banana production, he used internet to get more details about bananas and he usually consulted it for information related to pesticides. This participant explained that it was his aim to understand what kind of plant they can co-associate with bananas and he was interested in knowing the appropriate soil for planting bananas.

Thanks to his research on the internet, the participant said that he had launched into the production of bananas using herbicides which allowed him produce bananas without tilling the soil. Although, this technique takes time to yield results because the soil needs to be used of herbicides, according to him his production is increasing every year. The use of internet to get agricultural information was also mentioned by another farmer who explained that he used the internet to get information about how to take care of vegetables on his farm.

Another farmer point out that community radio is the main tool for getting agricultural information. As an example, he explained that he heard on the community radio about new techniques to improve the production of lettuce, which he implemented and his production increased.

Another issue which constituted part of the discussion in Murrombene was related to who the driver of on-line agricultural information seeking should be. On this issue, farmers made it clear that volunteers must take the major role in this process because they are more educated and they have computer and internet access. This argument was emphasised by one participant who said that community volunteers were working with farmers who never left their areas in order to see other things. volunteers must go to farms and listen to farmers concerns. He also said the farmers who live in the district are different from people who live in the big cities in terms of the way they see the world. In addition, the participant said most of the farmers have never had contact with internet; they use mobile phones and listen to the radio, but even when they listen to the radio, famers do not talk about their problems.

In this latter participant's view, volunteers must contact the farmers and discover their concerns and use internet to find solutions. One participant explained that even the idea that farmers should call in to the radio would not work; what really would work is the volunteers going into the field, identifying the problems and finding solutions.

In response to this argument, volunteers agreed that most farmers are not educated; they argued that the role of on-line agricultural information seeking must involve all stakeholders. According to the volunteers, the process starts with each of them (farmers and volunteers). The volunteers must browse, but farmers cannot wait for volunteers to provide everything. They must call or come to the CMC to report their problems because volunteers cannot reach all the farm areas.

The discussion moved on to the kind of on-line agricultural information which they wanted to hear but which was not broadcast. Different types of information were mentioned, but it was clear that fertilizers constitute a major concern. One participant said that in Murrombene, farmers use a lot of chemical fertilizers so it is necessary to broadcast information about organic fertilizers. The radio must teach farmers how to make organic compost and use it to fertilize their farms. The organic compost is cheaper and does not damage the soil. They added that information about how to produce and how to conserve the

seeds must be broadcast as well. The group discussion also argued that the radio must broadcast information about new kinds of crops, but this must be done with the help of extension workers in order to test if new crops are suited to Murrombene's soil, so broadcasts should be made after testing.

Another part of the discussion focused on perceived problems. Questioned about their perceptions with regard to the relationship between farmers and volunteers, their responses revealed that the participants felt that the relationship was not strong. According to one participant, the relationship was weak because there was no volunteer specifically assigned to the agricultural program who could walk around and talk with farmers, because the majority of people who work in community radio are volunteers and, as such, they do not have time to walk around and talk with farmers. Another member said he had never seen volunteers in his area and that the research discussion was the first time he had been in the radio station. One volunteer, commenting on this issue, said that community volunteers faced a lot of problems, starting with the fact that there is no transport to reach all the farms because community radio works with volunteers which means that volunteers do not earn anything monthly. So, how can they reach the farmers? On the same issue, the volunteer said the major problem arose when a volunteer assigned to the agricultural program was required but the community did not make enough money to support this process.

Another point which the focus group spent some time discussing was related to the problem encountered when dealing with on-line agricultural information. They made it clear that most of the on-line agricultural information does not refer to Murrombene. As an example, one participant said it was possible to find a technique for producing certain crops, but when you looked at the reality of Murrombene, it was different. On the same issue, another participant explained that it is not possible to plant potatoes in June in the area where his farm is located because, until September, the soil is still damp and potatoes rot. So it is important to take into account this aspect when dealing with on-line agricultural information.

It was made clear during the discussion that the problems which CMC face in terms of using on-line agricultural information efficiently are related to the need to adjust the information to a local context. According to one participant, in order to realise this process, it is important to involve extension workers because they understand agricultural issues better than volunteers do. Extension workers can frame the on-line agricultural information in order

to answer to the needs of Murrumbene. According to the participants, the extension workers in Murrumbene do not perform their role properly because they do not go to the field and if they go in order to help, they demand money. In spite of these problems, it is crucial to involve extension workers because they know the district and are informed about agriculture.

In addition to the perceived problems mentioned above, the focus group discussion underscored that there is a lack of time on air for farmers to express their concerns. According to one of the participants, community radio needs to open airtime to farmers where they can present their concerns and receive answers. The participant added that because extension workers do not go to the farms, they can reply to the farmers' concerns via radio. Lack of time on air was mentioned by another participant as well, who said that time on air where farmers could present their problems would add value to the community because there are few extension workers, but radio can reach many farmers.

It was evident that on-line agricultural information plays an important role in this district as my participants highlighted, but they also made it clear that there are a lot of constraints which must be addressed. As a result, the discussion also considered some solutions in order to enable all districts to benefit from on-line agricultural information. According to my participants, extension workers need to be deeply involved because they are trained in agriculture. They are able to frame what is necessary to broadcast and the internet should be used to enrich the text. It was clear that a volunteer should be assigned to the agriculture programme. With regard to this issue, the participants made it clear that in order to make it possible for volunteers to visit the farm areas, farmers must take responsibility for paying a certain amount to support the travelling volunteers.

4.2.2. INDIVIDUAL INTERVIEW

The interview with the manager of community radio Millennium FM, in Murrumbene, was carried out at approximately 5 pm. It was held at his office in the CMC. This interview lasted approximately thirty to forty minutes. After I had introduced myself and explained the aim of the study, I asked him to comment on the relationship between farmers and volunteers. According to my interviewee, there are some problems of communication between farmers and volunteers. Those problems are related to the fact that the agricultural program does not have an open line to communicate with farmers. My interviewee said that the open line was cut because farmers used to call and complain about the role of the

extension workers when they went to the farms. As result, the CMC was forbidden by the administrator of the district to open lines during the agricultural program. It constitutes another problem for the radio because farmers expressed their concerns through this communication channel, because normally they do not come to the station.

The interview moved on to the usefulness of the on-line agricultural information in the district, and he said that the on-line agricultural information broadcast helps because it is through the information which the radio broadcast that the extension workers got explanations of something which they did not understand. According to him, it is through these comments he understood that what they got from the internet not only benefited the community, but also the extension workers who were able to go to the farmers and give solid explanations.

In response to the question about what kind of on-line agricultural information he thought should be broadcast that it is not broadcast currently, he explained that agricultural information about where farmers can go in order to sell their produce was important because farmers in the district produce a lot but they do not know where to market it. He added that it was also necessary to broadcast information about fertilizers because the majority of farmers in the district are not aware of the advantages of fertilizers, or the type of crop to be cultivated in each season.

The interview also focused on perceived problems which volunteers encounter. According to my interviewee volunteers are not trained in agriculture so they encounter problems when they want to go further with a certain issue, for example, there are some terms related to agriculture which they are unfamiliar with because they are technical terms. As a result, the interviewee said, it is normal that within two weeks they aired the program only once because they were still discussing what type of information would be used in the program. In addition, the interviewee explained that as agricultural information is written in Portuguese and translated, and only spoken language is used when the program is being aired, it constitutes a crucial problem because those technical terms have no direct translation. According to him, the translation problem occurs like this because volunteers do not read or write the local language, so the translation must be done orally.

In order to overcome the problem of lack of agricultural knowledge by the volunteers, a memorandum was signed between the CMC and Department of Agriculture of the district.

The department is supposed to send extension workers to help volunteers during the program. According to him (manager of community radio Millennium FM), the extension workers do not come to share their knowledge. As a result, the program is not effective. He explained that what the volunteers do is to have a theme because he (volunteer) heard about it or browsed it and wrote about it but if we (manager and other volunteers) do not understand it, he (volunteer) takes it to an agricultural manager. However, if she (agricultural manager) is not available, the agricultural program will not be aired during that week. He summed up by saying that, based on the fact that agriculture is the subsistence base of most of the population, the program must be more forceful.

The perceived solution, according to my interviewee, is related to introducing a local website. The local website would bring agricultural information which would be relevant to the local context. Local agricultural information must be uploaded onto this website for volunteers to use.

Another issue which he mentioned during the interview was related to who should drive on-line agricultural information seeking. According to the interviewee, the involvement of volunteers and farmers is crucial in disseminating useful agricultural information. In his view, if volunteers and farmers work together in order to define what kind of agricultural information needs to be broadcast; this would constitute a good step in providing the agricultural information which corresponded to farmers' interests. My interviewee explained that there are some problems in the field: it is difficult in Murrombene to find farmers because Murrombene farmers have not formed associations. As such, when the station has a topic, it is difficult to find someone to talk about the issue.

4.2.3. DOCUMENT ANALYSIS/OBSERVATION

In the CMC of Murrombene, volunteers use different websites and they do not keep the websites for future consultation so I came across a limited number of websites. This problem was made worse because there is no single volunteer assigned to the program and the CMC does not have a file of the scripts used. So, in order to get the websites used it was necessary to talk to different volunteers.

Four websites were available in Murrombene: one I got from farmers, and three from the volunteers appointed to work with me. All websites reflect a Brazilian context. One

website describes the use of herbicides on bananas (see Appendix J). Another website with title “Portaljardim.com” explained how to prepare the land for planting (see Appendix K), and the third one, titled “Cultivando”, and explained how to make a garden (see Appendix L). The last one described the production of bananas (see Appendix M).

I stayed for a week for my observation and analysis of the Murrombene site and during this time I observed the volunteers’ use of internet. I also expected to listen to and be involved in the agricultural program. I went to the radio on Wednesday, the day on which the programme was scheduled for airing, but I was told that the program would not be aired because the information had not yet been collected and there were no volunteers to translate Portuguese into Bitonga. With regard to the mobile phone, I witnessed volunteers using it to connect with National Radio Public Broadcast in order to air national information and also to communicate with friends. Finally, I observed that, in this district, on the day which the agricultural program is aired, farmers make time to listen.

4.3. CONCLUSION

In conclusion, focus group discussion, individual interviews, and document analysis and observations made it clear in both CMCs that agricultural information sought on-line is perceived as useful. According to the farmers, agricultural information sought on-line helped them to make wise farming decisions and helped them control pests. Furthermore, they learned new techniques to improve productivity.

However, the focus group discussion and individual interviews showed that lack of agricultural knowledge on the part of community radio volunteers and language problems undermine the role of CMCs in providing indirect access to on-line agricultural information to farmers. Even when they access on-line agricultural information they face the problem of translating from Portuguese into the local language. Lack of agricultural information on the part of volunteers creates conditions where certain agricultural information available on-line, which is crucial for making better decisions, is overlooked by volunteers with insufficient knowledge of agriculture.

The scenario described above is made worse by the fact that on-line agricultural information generally relates to a Brazilian context (see Appendixes G, H, I, J, K, L, and M). Agricultural information available on-line is not itself useful, unless it relates to farmers’

daily experiences. Within this framework, there is a demand that on-line agricultural information should be framed to reflect the local daily experience of the users.

Farmers and volunteers in both CMCs perceive the following as solutions in increasing the usefulness of agricultural information sought on-line and broadcast via community radio: extension workers and volunteers working together because volunteers lack agricultural knowledge; a local website that will provide agricultural information relevant to the district, and volunteers who browse on-line agricultural information which is more targeted at the local audience. Finally, the focus group discussion and individual interviews showed that a permanent agricultural volunteer would increase the usefulness of agricultural information sought on-line because the volunteers assigned would focus only on agricultural information. With regard to this issue, they (farmers and volunteers) made it clear that financial support for such a person would be necessary to give him access to different farms. In addition to this fact, manager of Community radio Millennium FM suggested, as way forward, a creation of local website.

CHAPTER FIVE

DISCUSSION

5. INTRODUCTION

In this chapter I discuss the data in Chapter Four about the perceived usefulness of agricultural information sought on-line in two CMCs, Namaacha and Murrombene respectively. This chapter discusses the foremost findings and I attempt to interpret the participants' insights about the usefulness of agricultural information sought on-line and broadcast via community radio. I do it with reference to relevant literature described in Chapter Two. The evidence which I discuss in this chapter will be structured in three sections, addressing my research questions. Looking through the findings different themes arose and my discussions will be grounded on these themes.

The participants in focus group at Namaacha and Murrombene were labelled as farmer or volunteer respectively whilst; the participants in the individual interviews were labelled as Manager of Community Radio Cascatas, in Namaacha, and Manager of Community Radio Millennium FM, in Murrombene.

5.1. ONLINE AGRICULTURAL INFORMATION

This section reflects on the discussion of my findings as to the extent farmers and volunteers perceive the agricultural information (sought on-line and broadcast via community radio) as useful. The data was generated from the focus group discussions, individual interviews, and document analyses.

Agricultural information sought on-line in both Community Multimedia Centres is perceived as useful. According to the participants in the focus group discussions, in both CMCs, on-line agricultural information helps them (farmers) to combat pests. This claim was supported by a farmer in Namaacha, when he went to the CMC and explained to the community volunteers that:

My strawberries have serious problems; I will lose all of them. He [volunteer] said that there is a website. We browsed and I took a book about strawberries. I saw the chemicals and I went to the market and I bought the chemicals and I applied them. I overcame the problem.

The fact that on-line agricultural information plays an important role in disease prevention is supported by Lwoga (2010:1) who said that access to ICT enables smallholder farmers to benefit from health advice on disease prevention. On this point, another farmer in Murrombene said:

When I wanted to produce bananas, [...] I had to go to internet to get information about what kind of crop can co-associate with bananas and the characteristics of the soil as well.

For him, the internet was an important tool because he could get information which served as a guide for future action. As a result of using internet, he applied the herbicides which were the best solution that he found to produce bananas. The role of on-line agricultural information in supporting decision-making was underscored by Lwoga (2010:1) who said that access to relevant knowledge and information can enable farmers to make informed decisions regarding their agricultural production activities. The farmer in Murrombene went on to explain that the use of herbicides is important because:

It saves in terms of intensive labour on the farm [...] although this technique takes time to see the profit because the soil needs to get used to the herbicides, but my production is increasing annually and I am gaining.

Another farmer in Namaacha explained that this year (2012) his production had increased considerably because he saw on the internet that it is possible to plant strawberries using plastic. The role of on-line agricultural information in increasing the farmers' performance is emphasised by Girard (2003:6) who said that content available on the internet which explains useful agricultural techniques can be transformed into knowledge and contribute to increased production.

Agricultural information sought on-line (see Appendix K) and broadcast via community radio plays an important role in increasing production as described by a farmer in Murrombene who said that

I listened to the radio about the new techniques of making nursery beds as I was doing it according to my thinking as I farm [...] lettuce, I started opening small beds with one meter and half and sowing and due to this system my production improved.

In this regard Girard (2003) argues that convergence between community radio and internet gives an opportunity to the farmers to have indirect access to on-line agricultural information which will contribute to increasing their performance.

The farmers and volunteers in focus group discussions and individual interviews, in both CMCs, perceived agricultural information sought on-line as useful because it contributes to enriching the farmers with information which helps decision-making. They underscored that there are a lot of challenges with regard to agricultural information sought on-line in order for the majority of farmers to benefit from it.

5.2. LACK OF AGRICULTURAL KNOWLEDGE BY THE COMMUNITY VOLUNTEERS

The findings showed that lack of agricultural knowledge by the volunteers is perceived as a problem in making on-line agricultural information meet the needs of the farmers. The manager of Community Radio Millennium FM explained:

At first, it is necessary to understand that the volunteers themselves do not have training in agriculture. Then, when the person works in agriculture of his own free will [...] he will run into problems when he tries to follow the subject.

Lack of agricultural knowledge on the part of the volunteers was underscored by a farmer in Namaacha who said that in order to bring more detailed agricultural information, community volunteers should have agricultural knowledge. Giving an example, he said, “To write a story about an agricultural issue, the volunteers had to have some element or knowledge of agriculture.” The manager of Community Radio Millennium FM explained that as a consequence of lack of agricultural knowledge

It is normal that within two weeks, the programme is aired only once, not because we are unwilling but because we were unable to gather information; we are still discussing what we will broadcast.

It is evident that if volunteers have no agricultural knowledge, they will not be able to browse and broadcast useful agricultural information because they do not know what they are looking for. So the volunteers must have agricultural knowledge in order to browse for useful information to broadcast. This reflects a relevance paradox (Charnock in Waruingi, 2011:3), because if volunteers have no agricultural knowledge they will not see the relevant agricultural information.

5.3. LANGUAGE PROBLEM

In addition to the perceived problem of lack of agricultural knowledge, my participants also perceived that language used on the internet constitutes another constraint. These aspects

are related because if you do not know much about agriculture, you will not understand technical terms in Portuguese and you will not be able to explain them in an African language. According to volunteers in Namaacha

The downside of the internet is related to language that I could not decipher in order to say it at the level of our audience. Once, I was talking about a pine leaf ... and I said kapok... on radio. As the program is broadcast in Changana I said – take the kapok which you will find on Cascasta Street. Later, I realised that kapok is a type of crop.

The language used on the internet raises problems, according to volunteers and managers of both community radio stations, mainly when it is necessary to translate it from Portuguese into local languages. Language as a major constraint to accessing on-line content was witnessed by Dalvit et al. (2011) in which they noted that language constraints in accessing information affect diverse groups. On the same issue, the manager of community radio Millennium FM said that this process is more complex because the majority of volunteers are not able to read or write in the local language, so the translation is done orally as the program is aired. According to him, if the volunteers were able to write and read in local language they would be able to have time to analyse further when they translate from Portuguese into a local language. During my research in Murrombene, I waited to listen to the programme but the programme was not aired because the person who was able to translate from Portuguese into Bitonga or Xitswa had quit.

The negative scenario related to language used on the internet described above was witnessed by Attias and Deflander (2003:66) who point out that language used on the internet constitutes a big challenge. They explain that rural broadcasters face problems with language used on the internet as most rural volunteers frequently speak the local language rather than the official one in which the content is written. In addition to this problem, most information available on the internet is written in technical or academic language which makes it more difficult to understand. The manager of community radio Cascatas described the challenge in understanding the language used on the internet as follows:

We get [information] from internet and it has some words which we do not understand. [...] It is difficult to download certain information and there is one sentence which you do not understand, or a name. You do not know what it is. And then it is difficult to talk about it on air because if you did not understand it is clear that the audience will not understand either.

5.4. DIRECT COMMUNICATION BETWEEN FARMERS AND VOLUNTEERS

In this section I discuss my findings regarding the direct communication between farmers and volunteers to improve the perceived usefulness of the agricultural information sought on-line and broadcast via community radio. The data is generated from the focus group discussion and individual interviews.

It was evident, according to my participants that there communication gap which undermines usefulness of both CMCs. The discussions and interviews with my participants is reflected on the themes below.

5.4.1. VOLUNTEERS' FIELDWORK

It was made clear by my focus group discussion and my individual interviews that the face-to-face communication between farmers and volunteers is weak. The volunteers do not go to the farms to talk to farmers in order to get their concerns and opinions about their farmers' activities. One of the volunteers in Murrumbene explained that:

We have problems here on the radio because the majority of people who are working are student volunteers so when they come out from school, they serve here for a time and leave because they have to review their homework. This is the situation in which we live. That is why it is not easy for volunteers to circulate.

Lack of volunteer fieldwork is also described by the manager of Community Radio Cascatas who explained that the communication between farmers and volunteers is not strong because they are working as volunteers. This means that within the newsroom there are no volunteers to go to the field and talk with farmers. Another farmer in Namaacha said that

It is a rare case, myself I have never had the privilege, I am curious I come to CMC and I look for solution if something is going wrong with my production but I think that there is a lack of volunteers going to the farm, they must go to the farm. They must be more present there.

Fieldwork in the community radio is crucial so it is the volunteers' duty as volunteers to go and communicate with farmers in order to identify the stories, and then present them on air to a wide range of different audiences (Skillset, 2009). So, they are expected to spend much time out gathering information. My findings showed that volunteers are not trained in agriculture, therefore they have a limited understanding of agricultural issues. Even if they go to farms, they cannot see and interrogate further issues related to agriculture.

Lack of fieldwork, according to my participants, is worse in the CMC of Namaacha because farmers are not able to express their concerns properly, even if efforts are made in order to talk with them. One volunteer in Namaacha explained this concern as follows:

I went to some farm areas to find out what difficulties they encountered. They said we have no problems but it was possible to notice healthy produce and produce that had pest problems but they said, “We have no problems.”

Taking this statement into consideration, farmers are not able to express what is going on because they do not know what is happening. So, if they do not know, they cannot say anything. In supporting this argument, another participant farmer in Namaacha said that “peasants [...] oftentimes do not know how to express a problem, it is not that they do not know that the problem exists, but they do not know how to explain it.” This argument was supported by another participant from farmer in Murrombene who said that

The majority [of farmers] are people from the low level and they never had contact with internet, their maximum is mobile phone and listening to radio only, even when they listen they do not talk about their problem.

So, if farmers have difficulty in expressing their concerns, it is evident that direct communication between farmers and volunteers will not help because the volunteers do not have agricultural knowledge to help the farmers, and farmers do not know what is happening in their farms. Within this process, there is a passive attitude on the part of farmer in accepting that some products will go bad and feeling there is nothing they can do about it. This same attitude extends to the volunteers and extension workers. Farmers feel that, even if they explain their problem or if they search for information on-line, it is not going to help them anyway, because the volunteers will not understand due to their lack of agricultural knowledge and because the website focuses on a different context (usually Brazilian).

5.4.2. FARMERS’ ACCESS TO THE CMC

Direct communication between farmers and volunteers is weak, according to my participants, because of the approach taken by both CMCs. The CMC of Namaacha’s approach lies in broadcasting agricultural information according to farmers’ requests, while in the CMC of Murrombene agricultural information is broadcast based on volunteers’ initiative.

According to the manager of Community Radio Cascatas, Namaacha's approach benefits only a few farmers. He explained as follows:

This model is not beneficial because it benefits one layer... which is a minority in our community. I say that because it only affects those who have resources and live near to the CMC, while there are farmers who do not know or do not have this information that they can call in or come [...] to get agricultural information.

It was evident during the time in which I observed the daily CMC of Namaacha activities that there is less engagement by the farmers because only those who call or approach the CMC schedule time to listen to the radio. Farmer engagement and participation is therefore critical to processes of local change as participation gives communities a clear understanding about their environment and of their own ability to influence their own situation. So, if farmers are not aware about the opportunity which the CMC offers, they cannot participate. As a result, they will not call or approach the CMC to get agricultural information and improve their farming practices.

However, there is, according to the manager of community radio FM, a willingness by the farmers to participate in decision-making within the community radio. This willingness was witnessed by my observation that certain farmers scheduled time to listen to the program. It seems that the community radio does not provide a space in which the community can express their concerns and opinions. During the focus group discussions, one participant explained that it was important that the radio creates channels in which farmers can express or send their concerns in order to get responses. It would give volunteers an opportunity to find someone to answer such questions or to browse if there was no local solution. Denying farmers' participation in the CMC undermines the role of these facilities because participation is fundamental for development of any project, according to the premises of the participatory approach (Servaes et al. 1996).

5.4.3. PHONE COMMUNICATION

In order for agricultural information to respond to farmers' concerns and interests, communication between the CMC and farmers is crucial because the farmers in Murrombene are located in different areas and sometimes far from the CMC, so the mobile phone constitutes one of the most important tools by which farmers can frame what kind of agricultural information contributes to the development of agriculture.

Explaining the above situation, the manager of community radio Millennium FM said that the program started off by opening the phone line in order to talk with farmers, but farmers complained about the role of extension workers in the field and the administrator of the district demanded that the open line be stopped. Lack of participation constitutes a major weakness of any community development (Servaes, 1991) so, cutting off line the phone line undermines the role of the agricultural program and the CMC as a whole in Murrombene because farmers participate in decision making through mobile phone, decision-making which is an important step in framing agricultural information in order to respond to farmers' concerns.

Cutting off a line raises questions about the type of collaboration existing between the government and the CMC in order to develop the farmers because the ICT policy states that, through ICT, the Mozambican government must contribute to developing farmers by providing up-to-date online information which contributes to socio-economic development. Servaes et al. (1996) argue that community participation is critical in processes of local change. Communities must be given a voice, a voice which will affect local decision-making and problem-solving because lack of communication constitutes a passport for the failure of any community development (Servaes, 1991).

5.5. SUGGESTIONS FOR IMPROVEMENT

This section presents the findings in response to my third research question which aimed at understanding what might improve the perceived usefulness of agricultural information sought on-line and broadcast via community radio. The data was generated from the focus group discussions, individual interviews, and observation.

5.5.1. POTENTIAL ROLE OF EXTENSION WORKERS

According to my participants, extension workers are trained in agricultural issues. As such, they can help to adapt on-line agricultural information to the reality of the district. So, working together with community volunteers, they can contribute more in broadcasting useful agricultural information to the farmers. A farmer in Murrombene voiced this concern as follows:

I think that the big problem is to adjust the on-line information to the reality on the ground. Then it might be necessary to involve some agricultural technicians who

understand a little more about agriculture in order to take that information and work according to the terrain and specific area.

The same concern was expressed by the manager of Community Radio Cascatas who said that it is crucial to involve extension workers in agricultural programs because they can “give more detail about the information which we got from internet.” Another farmer in Namaacha explained that

there is a need for collaboration with the Department of Agriculture because we do not have extension workers here and the reporters do not have the knowledge of the basics of agriculture.

From these arguments, it is evident that the involvement of volunteers and extension workers can overcome problems related to lack of knowledge on the part of volunteers which is reflected when translation from Portuguese into local language is required; also, this process can help to frame the agricultural information sought online in order to respond to local users’ interest.

5.5.2. SUPPORT FOR VOLUNTEERS

All my focus group discussions and individual interviews were of the opinion that community volunteers must be supported in order to get into the field, because a community radio does not make enough money to send volunteers into the field. Participant volunteers in Namaacha stated that a lack of incentives for volunteers is one of the reasons why CMCs are not performing their role in the community well. According to this volunteer, to make a good agricultural program, the volunteers must walk long distances to get information from different sources in order to compare it and this requires lot of effort. Along the same line, another participant volunteer in Murrombene explained that

The fact that a permanent journalist is required to go the field, creates another situation [...] he has to visit, but how? [...] Maybe we could find a way to join [all] farmers and we could think about the possible solutions of how we can help that person who is helping us in order to reach our farmers.

It was evident, during focus group discussions in both CMCs that volunteers were trying to use this moment in which farmers and volunteers were together to make a point that volunteers must be paid. It seems fair to have one volunteer assigned to an agricultural program because if such a volunteer exists and pays regular visits to the farm, that person will build an understanding of the kind of issues and the farming context and will therefore be

able to find appropriate agricultural information on-line and contextualise it. This process will give the volunteer an opportunity to act in order to motivate the audience (farmers in this case) to cooperate actively in development and to defend the interest of their concerns (Kunczik in Wimmer & Wolf, 2005:2).

5.5.3. CHANNELS OF COMMUNICATION BETWEEN FARMERS AND VOLUNTEERS

During the focus group discussions, one participant explained that it was important that the radio create channels in which farmers can express or send their concerns in order to get replies because it would give volunteers an opportunity to find someone to answer such questions or to browse if there was no local solution. Creating a space where the stakeholders participate constitutes an important step for development, as defenders of participatory approach like Servaes (1991) argue. According to manager of community radio Millennium FM Carlos it is crucial that journalists and farmers work together to create an opportunity to broadcast information which corresponds to the interests of farmers. Giving an example, he said:

The journalist can think that the situation of the market, for example, is in a certain way, but the farmers who are in the field can say that in the field the situation is different. I think that both are important for that question.

A volunteer in Murrombene explained that direct communication between farmers and volunteers is important because

[volunteers] can take information but information is not for everyone. Let's assume that Pateguane has a need but what I shall say does not interest them because they have other problems. What I will say respond to Jango's problem, for example. Pateguane, who did not want that information, has its own problem. [...] That is why the community which has problems should find a way to approach to the radio to communicate their problems.

According to the above arguments, participation of all stakeholders is crucial. This is also supported by Servaes et al. (1996:34) who maintain that the participation of beneficiaries is a key to development. He added that senders and receivers must have access to the media to participate because only adequate access can make its information needs known.

However, during focus group discussion it was evident that farmers' arguments lay more emphasis on the idea that volunteers must go to the farm to talk with farmers and get their concerns. According to farmer in Murrumbene,

We are working with peasants who oftentimes are not educated and live in rural areas and have never left to see other things. It is you who must bring it to him. So even to say that peasants will call in to the radio will not work. What really works is volunteers going to the field and seeking problems and difficulties.

This argument is supported by a farmer in Namaacha who explained that volunteers cannot wait for farmers to call in or go to the CMC; it is necessary that volunteers approach the farmers and get their concerns and, using internet, find solutions.

It was evident during the discussion that farmers face problems expressing their concerns. So, even if the volunteers go to the farm, the problem will not be solved because first it is necessary to know the problem in order to be able to report to someone who can solve it. This scenario reflects the relevance paradox because there is a need, in the first place, that farmers recognised that there is a problem in order to find a way to solve it. This scenario reveals that farmers are not unaware that there is a problem with their plants. So, the farmers can explain a problem which they do see.

5.5.4. LOCAL WEBSITE

During my individual interview with the Manager of Community Radio Millennium FM, he suggested the creation of a website which focuses on locally relevant agricultural information. The local website would provide agricultural information to address local needs and the role of community volunteers would be to download and broadcast it via community radio. Giving an example of how websites with relevant agricultural information can be used in the program, the Manager of Community Radio Cascatas explained that information about strawberries got from the website can be broadcast while a farmer who is planting strawberries is in the radio station to share his experience.

The creation of a local website and participation of the farmers in the agricultural program constitutes an important step in shaping on-line agricultural information in order to respond to the local need. Within this process, volunteers, extension workers, and farmers can add relevant information to the website and modify it if it is found to be incorrect or inappropriate to the context. Moreover, they can write it in a local language and have a

person proficient in that language to review it. Contextualised online information is crucial because information is useful if it responds to local context and local users' interest (Tedre et al., 2006).

5.6. CONCLUSION

The focus group discussions and individual interviews, in both CMCs, revealed that agricultural information sought on-line is perceived as useful because it contributes to enriching the farmers with information which helps decision-making. These findings support arguments of defenders of the deterministic position often associated with the optimistic perspective, like Lwoga (2010). However, the findings also underscored that there are lot of challenges (see 5.2, 5.3, 5.4.1, 5.4.2, and 5.4.3). These challenges confirm what was underscored in Chapter Two by Dalvit et al. (2011), Attias and Deflander (in Girard, 2003:66), and Moyo (2009:124).

The study showed that to search for and broadcast agricultural information which responds to the daily experience of farmers, volunteers must drive the process (see Chapter five 5.5.2). Volunteers were identified as the ones who needed to "contextualise" on-line agricultural information, either by going to the field and finding out from the farmers what they need or by becoming experts themselves. This includes being able to translate agricultural information from Portuguese into the local language and approaching experts (e.g. extension workers) in order to understand the meaning of the terms. Furthermore, having an agricultural program is better than broadcasting agricultural information randomly because with an agricultural program, farmers are able to schedule to listen to the program.

As a way forward, participants suggested that the current scenario can be improved by using resources better and bringing in new ones. In terms of human resources, a specific volunteer should be allocated to the agriculture program in order to build up sufficient agricultural information which will allow him to critically understand agricultural matters (Chapter five, 5.5.2). Extension workers must also be more involved (chapter Five, 5.5.1). In terms of material resources, it would be good to keep track of and exchange information about websites being used, and a new, local website was pointed out by the manager of Community Radio Millennium FM in Murrombene as one of the potential solutions the creation of a website to upload local agricultural information where volunteers can easily access and broadcast it via community radio.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6. INTRODUCTION

In this chapter, I make recommendations in an attempt to address the need to make agricultural information available on-line more accessible to farmers via community radio. I also conclude my research.

6.1. RECOMMENDATIONS

Information and communication technology can be an important tool in providing access to useful agricultural information if it is well implemented, but due to a communication gap between the major stakeholders (volunteers, farmers, and extension workers) both CMCs are not performing their role properly. Within this framework, I recommend for both CMCs that, in order to address communication gap, volunteers, farmers, and extension workers work together. This can be achieved by involving farmers and/or extension workers either in the preparation of or while airing the program.

Farmers (ideally from different areas), volunteers and extension workers (in both CMCs) should determine which matters are discussed, based on their local relevance. The role of volunteers should be to browse agricultural content defined in advance by the three stakeholders, and during the program, volunteers should act as moderators. On air, farmers could explain what is happening in the field and extension workers could explain how to improve or to overcome problems if they exist.

Although the involvement of volunteers, farmers, and extension workers is crucial I contend that the challenges mentioned above (Chapter Five 5.2, 5.3, 5.4.1, 5.4.2, and 5.4.3) cannot be entirely addressed by such intervention and I suggest the idea of local website. Such a website should have a space where mobile phone users can send messages. Farmers can send messages explaining their problems and giving their opinions about what they need in order to be broadcast via radio. Farmers who do not know how to write and read they can use their children or neighbours to send messages. Using mobile phone is suitable in this process because is widely available in rural areas. In addition to this fact, mobile phone permit short message, this is important to farmers because the majority of them are not well educated, so writing long texts can be difficult.

The use of a website in which the short message service (sms) is major way to communicate with CMC will allow that all farmers to participate. In the CMC of Namaacha it could ensure that what is aired is not framed just by those farmers who call or visit the CMC. Also those who can use short message service can participate in framing agricultural information to be broadcast. Instead of waiting for volunteers' initiative to browse agricultural information, farmers in Murrombene can send messages to volunteers reporting their concerns.

The website can also overcome the need for volunteers assigned to agricultural programs to go to the field to get farmers' concerns, which is difficult because both CMCs have no resources to support transportation of volunteers. Volunteers can get farmers' concerns from the short message services. Finally, in case of Murrombene, it can also solve the problem of phone calls which were cut off because farmers complained about extension workers. In the short message service, volunteers can mediate farmers' messages to avoid clashing with local authorities.

Volunteers could access a website in order to see what farmers and extension workers posted in order to frame what is necessary to be aired in the program. Furthermore, the volunteers can put on links to material which they found useful. Such material can be accessed and commented on by those farmers who have computer and internet access, as well as by extension workers. Notes can be made about links that are relevant only for farmers in certain parts of the district. This feature could be implemented through a wiki, which could serve as a repository and archive of useful information for future volunteers joining the radio.

With regard to extension workers, instead of going to the radio, once a week, extension workers can work from their office or at home, for example, by checking the website and suggesting and creating material which should be used by volunteers in the agricultural program. Extension workers can also translate the complex concepts encountered by the farmers and volunteers. This feature can be implemented through an on-line glossary. In so doing, the challenges mentioned above (lack of agricultural knowledge and language problem) can be addressed.

In addition, open telephone lines should be allowed in Murrombene when the agricultural program is being aired. Finally, farmers need to be more involved in decision-

making in order to provide feedback on what is being aired and also to put forward their concerns and opinions for improvement.

6.2. CONCLUSION

Community Multimedia Centre can be an important tool in providing access to useful agricultural information if it is well implemented, but a number of challenges have created a communication gap between the major stakeholders (volunteers, farmers, and extension workers), so neither CMC is performing its role properly. Volunteers do not understand agricultural issues; as a result, they face problems translating agricultural information from Portuguese into local languages; they do not go to the field because they are students and cannot afford the transport cost; when they finish schooling, they leave and all information is lost because the CMC does not keep records. Farmers have problems airing their concerns; also, they do not have time to engage with the radio because they are always on their farms. Extension workers do not go to the community radio in order to use this facility to disseminate good agricultural practices. In addition to these problems, in the CMC of Namaacha, agricultural information is broadcast based on farmers' request which sidelines those farmers who cannot call or approach the CMC. In the CMC of Murrombene agricultural information is broadcast based on the volunteers' initiative, but the communication between volunteers and farmers is weak because phone calls were banned as a result of local government intervention.

The usefulness of Community Multimedia Centres in providing direct and indirect access to online information is crucial, so it is important that communities in which those CMCs are located give especial attention to the role played by those CMCs. My research only focused on perceived usefulness of agricultural information sought on-line and broadcast via community radio. In this regard, there is very little research done in Mozambique, in this particular aspect. During this study, I realised that other topics should be researched.

An issue that I would like to see the Ministry of Agriculture and Ministry of Technology undertake is related to the implementation of a local website in order to accommodate the indigenous knowledge available in the rural communities. In addition to this, it is also crucial to undertake research in perceived usefulness of agricultural information

posted on the government website from the point of end-users as this study showed that the majority of websites reflect a Brazilian context.

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APPENDIX A

CMCs IN MOZAMBIQUE

Appendix A: CMCs in Mozambique

Province	Number of CMCs	District
Cabo Delgado	4	Balama, Chiúre, Muidumbe, Nangade
Niassa	3	Cuamba, Mandimba, Metangula
Nampula	6	Angoche, Ilha de Moçambique, Iuluti, Lalaua, Monapo, Ribáuè
Zambézia	3	Alto Molócuè, Milange, Quelimane
Tete	3	Chitima, Macanga, Mutarara
Manica	2	Catandica, Sussundenga
Sofala	2	Cheringoma, Dondo
Inhambane	3	Mabote, Massinga, Murrombene
Gaza	5	Chicualacuala, Chilembene, Chókwè, Manjacaze, Mazivila
Maputo	5	Manhiça, Moamba, Namaacha, Xinavane e Zona Verde

Table from Ministry of Science and Technology (MCT), March 2012.

APPENDIX B

GRID OF PROGRAMS IN NAMAACHA

Segunda-feira

Língua	Horas	programa
Changana	5:55	Abertura e anúncio da programação
	6:00	Kwezi em conexão com a rádio Moçambique
	7:00	Ouvinte repórter
	8:00	Mkama waku rungula
	9:00	Nkama Wamurimi (repetição)
	9:55	Transição para língua portuguesa
Português	10:00	Sinal horário e anúncio da programação
	10:10	Super Interativo
	12:00	Musica variada
	12:30	Jornal Maputo em conexão com a rádio Moçambique
	13:05	Bloco informativo
	13:20	A nossa saúde
	13:55	Transição para língua shangana
Changana	14:00	Sinal horário e anúncio da programação
	14:10	Wa nsanti a djanguine
	15:00	Nkama wa mahungu
	15:20	Unanga dza Moçambique
	16:10	Nkama wa kurungula

	17:15	Ta utomi la hina
	17:55	Transição para língua portuguesa
Português	18:00	Sinal horário e anúncio da programação
	18:10	Turma da esquina
	19:00	Música variada
	19:30	Jornal da noite em conexão com a rádio Moçambique
	20:00	Espaço de dedicatórias
	21:00	Música variada
	21:20	Anúncio de programação do dia seguinte
	21:30	Fecho da emissão

Terça-feira

Língua	Horas	programa
Changana	5:55	Abertura e anúncio da programação
	6:00	Kwezi em conexão com a rádio Moçambique
	7:00	Ouvinte repórter
	8:00	Mkama waku rungula
	9:00	A hi yakeni mi ndjango (repetição)
	9:55	Transição para lingual portuguesa
	10:00	Sinal horário e anúncio da programação
	10:10	Super Interativo

Português	12:00	Musica variada
	12:30	Jornal Maputo em conexão com a rádio Moçambique
	13:05	Bloco informativo
	13:20	Cidadão em Acção
	13:55	Transição para língua shangana
Changana	14:00	Sinal horário e anúncio da programação
	14:10	Nkama Wamurimi
	15:00	Nkama wa mahungu
	15:20	Unanga dza Moçambique
	16:10	Nkama wa kurungula
	17:10	Microfone aberto
	17:55	Transição para língua portuguesa
Português	18:00	Sinal horário e anúncio da programação
	18:10	Reforma no sector público
	19:00	Música variada
	19:30	Jornal da noite em conexão com a rádio Moçambique
	20:00	Espaço de dedicatórias
	21:00	Música variada
	21:20	Anúncio de programação do dia seguinte
	21:30	Fecho da emissão

Quarta-feira

Língua	Horas	programa
Changan	5:55	Abertura e anúncio da programação
	6:00	Kwezi em conexão com a rádio Moçambique
	7:00	Ouvinte repórter
	8:00	Mkama waku rungula
	9:00	Wa nsati ndjanguini(repetição
	9:55	Transição para lingual portuguesa
Português	10:00	Sinal horário e anúncio da programação
	10:10	Super Interativo
	12:00	Musica variada
	12:30	Jornal Maputo em conexão com a rádio Moçambique
	13:05	Bloco informativo
	13:20	Saúde sexual e reprodutiva
	13:55	Transição para língua shangana
Changana	14:00	Sinal horário e anúncio da programação
	14:10	??????????
	15:00	Nkama wa mahungu
	15:20	Unanga dza Moçambique
	16:10	Nkama wa kurungula
	17:10	Lei da Família

	17:55	Transição para língua portuguesa
Português	18:00	Sinal horário e anúncio da programação
	18:10	Turma da esquina
	19:00	Música variada
	19:30	Jornal da noite em conexão com a rádio Moçambique
	20:00	Espaço de dedicatórias
	21:00	Música variada
	21:20	Anúncio de programação do dia seguinte
	21:30	Fecho da emissão

Quinta-feira

Língua	Horas	programa
Changana	5:55	Abertura e anúncio da programação
	6:00	Kwezi em conexão com a rádio Moçambique
	7:00	Ouvinte repórter
	8:00	Mkama waku rungula
	9:00	Nkama Wamurimi (repetição)
	9:55	Transição para lingual portuguesa
	10:00	Sinal horário e anúncio da programação
	10:10	Super Interativo
	12:00	Musica variada

Português	12:30	Jornal Maputo em conexão com a rádio Moçambique
	13:05	Bloco informativo
	13:20	Boa governação (repetição)
	13:55	Transição para língua shangana
Changana	14:00	Sinal horário e anúncio da programação
	14:10	Lei da família (repetição)
	15:00	Nkama wa mahungu
	15:20	Unanga dza Moçambique
	16:10	Nkama wa kurungula
	17:10	Microfone aberto(repetição)
	17:55	Transição para língua portuguesa
Português	18:00	Sinal horário e anúncio da programação
	18:10	Reforma no sector público
	19:00	Música variada
	19:30	Jornal da noite em conexão com a rádio Moçambique
	20:00	Espaço de dedicatórias
	21:00	Música variada
	21:20	Anúncio de programação do dia seguinte
	21:30	Fecho da emissão

Sexta-feira

Língua	Horas	programa
Changana	5:55	Abertura e anúncio da programação
	6:00	Kwezi em conexão com a rádio Moçambique
	7:00	Ouvinte repórter
	8:00	Mkama waku rungula
	9:00	Ta utomi la hina (repetição)
	9:55	Transição para lingual portuguesa
Português	10:00	Sinal horário e anúncio da programação
	10:10	Super Interativo
	12:00	Musica variada
	12:30	Jornal Maputo em conexão com a rádio Moçambique
	13:05	Bloco informativo
	13:20	Saúde sexual e reprodutiva (repetição)
	13:55	Transição para língua shangana
Changana	14:00	Sinal horário e anúncio da programação
	14:10	Nkama Wamurimi
	15:00	Nkama wa mahungu
	15:20	Unanga dza Moçambique
	16:10	Nkama wa kurungula
	17:10	A hi yakeni mi ndjango

	17:55	Transição para língua portuguesa
Português	18:00	Sinal horário e anúncio da programação
	18:10	Turma da esquina
	19:00	Música variada
	19:30	Jornal da noite em conexão com a rádio Moçambique
	20:00	Espaço de dedicatórias
	21:00	Música variada
	21:20	Anúncio de programação do dia seguinte
	21:30	Fecho da emissão

Sábado

Língua	Horas	programa
Changana	5:55	Abertura e anúncio da programação
	6:00	Informação de utilidade pública
	6:30	Notícias locais, nacionais e internacionais
	7:00	
	8:00	
	9:55	
	10:00	Sinal horário e anúncio da programação
	10:10	Programa infantil

Português	11:30	Tindzava
	12:00	Música mariada
	12:30	Jornal Maputo em conexão com a rádio Moçambique
	13:05	Bloco informativo
	13:20	Música Variada
	13:55	Transição para lingua changana
Changana	14:00	Sinal horário e anúncio da programação
	14:10	????????
	15:00	Kama wa mavungo
	15:20	Unanga dza Moçambique
	16:10	Nkama wa kurungula
	17:10	?????
	17:55	Transição para lingua portuguesa
Português	18:00	Sinal horário e anúncio da programação
	18:10	Astrologia
	19:10	Música variada
	19:30	Jornal da noite em conexão com a rádio Moçambique
	20:10	Espaço de dedicatórias
	21:00	Música calma
	21:20	Anúncio de programação do dia seguinte

	21:30	Fecho da emissão
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domingo

Changana	5:55	Abertura e anúncio da programação
	6:00	Informação de utilidade pública
	6:30	Notícias locais, nacionais e internacionais
	7:30	A hi kongeleni
	8:00	Espaço das mensagens
	9:55	Transição para língua portuguesa
Português	10:00	Sinal horário e anúncio da programação
	10:10	Programa infantil
	11:30	Super interativo
	12:00	Música mariada
	12:30	Jornal Maputo em conexão com a rádio Moçambique
	13:05	Bloco informativo
	13:20	Música Variada
	13:55	Transição para língua changana
Changana	14:00	Sinal horário e anúncio da programação
	14:10	?????????
	15:00	Kama wa mavungo
	15:20	Unanga dza Moçambique

	16:10	Nkama wa kurungula
	17:10	?????
	17:55	Transição para lingua portuguesa
Português	18:00	Sinal horário e anúncio da programação
	18:10	Astrologia
	19:10	Música variada
	19:30	Jornal da noite em conexão com a rádio Moçambique
	20:10	Espaço de dedicatórias
	21:00	Música calma
	21:20	Anúncio de programação do dia seguinte
	21:30	Fecho da emissão

APPENDIX C

GRID IN MURROMBENE

Segunda-feira

1ª emissão

Emissão em língua Local (Xitswa)

Horas Programas	
05.30H	Sinal de Abertura estação
05.35H	Hino Nacional. Abertura da emissão em língua Local
05.40H	Música Mocambicana local
06.00H	Jornal da Manhã - Simultâneo RM
07:00H	O Distrito no seu Receptor
07.20H	Anúncios de interesse público
07.25H	Música
07.30H	Café da Manhã – Simultâneo RM
08:00H	Noticias Local (lingua local)
08.05H	Música Variada
08.30H	Satélite Desportivo
09.00H	Bom dia Morrumbene e arredores
09:50H	Fim da emissão em lingua Xitswa

Emissão em Língua Bitonga

09:55H	Abertura da emissão em língua bitonga
10:00H	Anuncio de interesses públicos
10:05H	Programa de Agricultura
11:00H	Noticias Locais (língua local)
11.05H	Musica Variada
11.30H	O Distrito no seu Receptor
12.00H	Música Variada e Anúncios Públicos
12.30H	RM Jornal – Simultâneo RM
13:00H	Musica
13:10H	Satélite Desportivo
13:40H	Musica
13:50H	Fim da emissão em língua Bitonga

2ª emissão

Emissão em língua portuguesa

Horas Programas	
13:55H	Abertura de emissão em língua portuguesa
14.00H	O Distrito no seu receptor
14.20H	Anuncio de interesse público

14:30H	Morrumbene Show
15:30H	Espaco Publicitario
16:00H	Noticias locais em Portugues
16.05H	Programa sobre Saúde
16.35H	Música Variada
17.30H	A hora do estudante
18.30H	Contos tradicionais e saberes locais
19.00H	O Distrito no seu receptor IIª Edição
19.20H	Compromissos Comerciais
19.30H	Jornal da Noite da RM
20.00H	Anúcios Públicos
20.05H	A Caminho do Provincial
21.00H	Noticias Locais
21.05H	Musica variada
22.30H	Fecho da Emissão – Hino Nacional

Terça-feira

1ª emissão

Emissão em língua Local Xitswa

Horas Programas	
05.30H	Sinal de Abertura estação

05.35H	Hino Nacional. Abertura da emissão em língua Xitswa
05.40H	A Palavra de Deus (15min)
06.00H	Jornal da manhã- Simultâneo RM
07:00H	O Distrito no seu Receptor
07:20H	Anúncios de interesse público
07.25H	Música
07.30H	Café da Manhã – Simultâneo RM
08.00H	Noticias locais
08:05H	Música Variada
09:00H	Anúncios de interesse público
09:05H	Espaço publicitário (Marketing em lingua local)
09:20H	Programa sobre a saude
09:50H	Fim da emissão em lingua Xitswa

Emissão em Lingua Bitonga

09:55H	Abertura da emissão em lingua bitonga
10:00H	Anuncios de interesse publico
10.05H	Programa de Saúde
11:00H	Informação Local (Lingua local)
11.05H	Musica Local (Morrumbene)
11.30H	O Distrito no seu Receptor

12.00H	Música Variada e Anúncios Públicos
12.30H	RM Jornal – Simultâneo RM
13:00H	Musica Variada
13:50H	Fim da emissão em lingua Bitonga

2ª emissão

Emissão em língua portuguesa

Horas Programas	
13.55H	Abertura da emissão em língua portuguesa
14.00H	O Distrito no seu receptor
14:20H	Anuncios de interesse publico
14.30H	Morrumbene Show
15.30H	Anúncios Públicos
15.35H	Programa sobre Agricultura
16.00H	Noticias locais em Portugues
16.05H	Programa sobre Agricultura (Cont.)
16:35H	Voz do Povo
17.35H	Músicas Locais
18.30H	Espaco Publicitário
19.00H	O Distrito no seu receptor IIª Edição
19.20H	Compromissos Comerciais

19.30H	Jornal da Noite da RM
20.00H	Anúncios Públicos
20.05H	Mbila Morrumbene 2011
21.00H	Noticias Locais
21.05H	Musica variada
22.30H	Fecho da Emissão – Hino Nacional

Quarta-feira

1ª emissão

Emissão em língua Local Xitswa

Horas Programas	
05.30H	Sinal de Abertura estação
05.35H	Hino Nacional
05.40H	Música Mocambicana local
06.00H	Jornal da Manhã - Simultâneo RM
07:00H	O Distrito no seu receptor
07:20H	Anúncios de interesse público
07.25H	Música
07.30H	Café da Manhã – Simultâneo RM
08.00H	Noticias locais
08:05H	Musica Variada

09:00H	Programa de educação
09:30H	Musica Variada
09:50H	Fim da emissão em lingua Xitswa

Emissão em Lingua Bitonga

09:55H	Abertura da emissão em lingua Bitonga
10:00H	Anúncios de interesse publico
10:05H	Tumbunuco
10:20H	Música Variada
11:00H	Informação Local
11.05H	Musica Variada com destaque para local
11.30H	O Distrito no seu receptor
12.00H	Anúncios Públicos e Música Variada
12.30H	RM Jornal – Simultâneo RM
13:00H	Musica
13:05H	Programa de Educação
13:35H	Musica variada
13:50H	Fim da emissão em lingua Bitonga

2ª emissão

Emissão em língua portuguesa

Horas Programas	
13.55H	Abertura da emissão em língua portuguesa
14.00H	O Distrito no seu receptor
14:20H	Anuncio de interesse publico
14:30H	Morrumbene Show
15.30H	Anúcios Públicos
15.35H	Programa sobre Justiça
16.00H	Noticias locais em Portugues
16.05H	Voz do Povo
17.00H	Música Variada
17.30H	Dedicatórias
18.30H	Espaço Publicitário
19.00H	O Distrito no seu receptor IIª Edição
19.20H	Compromissos Comerciais
19.30H	Jornal da Noite da RM
20.00H	Anúcios Públicos
20.05H	Era Digital (O mundo Globalizado)
20:35H	Musica variada

21.00H	Noticias Locais
21.05H	As 10 mais votadas do mês
22.30H	Fecho da Emissão – Hino Nacional

Quinta-feira

1ª emissão

Emissão em língua Xitswa

Horas Programas	
05:30H	Sinal de Abertura estação
05:35H	Hino Nacional. Abertura da emissão em língua Local
06:00H	Jornal da Manhã- Simultâneo RM
07:00H	O Distrito no seu receptor
07:20H	Anuncio de interesse publico
07:25H	Música
07.30H	Café da Manhã – Simultâneo RM
08.00H	Noticias Locais
08:05H	Musica Variada
09:00H	Bom dia Morrumbene e arredores
09:50H	Fim da emissão em lingua Xitswa

Emissão em Língua Bitonga

09:55H	Abertura da emissão em língua Bitonga
10:00H	Anúncio de interesse público
10.05H	Bom dia Morrumbene e arredores (Dedicatorias)
11:00H	Informação Local (Língua local)
11.05H	Bom dia Morrumbene e arredores (Dedicatorias cont.)
11.30H	O Distrito no seu receptor
12.00H	Música Variada e Anúncios Públicos
12.30H	RM Jornal – Simultâneo RM
13:00H	Musica
13:05H	Anuncios de interesse publico
13:10H	Musica Variada
13:50H	Fim da emissão em língua Bitonga

2ª emissão

Emissão em língua portuguesa

Horas Programas	
13.55H	Abertura da emissão em língua portuguesa
14.00H	O Distrito no seu receptor
14.20H	Anuncio de interesse publico
14.30H	Morrumbene Show

15.30H	Anuncio de interesse publico
15.35H	Programa sobre Educaçã
16.00H	Noticias locais em Portugues
16.05H	Voz do Povo
17.00H	Música Variada
17.30H	A hora do estudante
18.30H	Magazine Juvenil
19.00H	O Distrito no seu receptor IIª Edição
19.05H	Compromissos Comerciais
19.30H	Jornal da Noite da RM
20.00H	Anúncios Públicos
20.05H	Mbila Morrumbene 2011
21.00H	Noticias Locais
21.05H	Boa noite Morrumbene e arredores
22.30H	Fecho da Emissão – Hino Nacional

Sexta-feira

1ª emissão

Emissão em língua Local

Horas Programas	
05.30H	Sinal de Abertura da estação

05.35H	Hino Nacional. Abertura da emissão em língua Local
05.40H	Música Mocambicana com destaque para local
06.00H	Jornal da Manhã- Simultâneo RM
07:00H	O Distrito no seu receptor
07:20H	Anúncios de interesse público
07.25H	Música
07.30H	Café da Manhã – Simultâneo RM
08.00H	Noticias Locais
08:05H	Musica Variada
09:00H	Dedicatorias
09:50H	Fim da emissão em lingua Xitswa

Emissão em Língua Bitonga

09:55H	Abertura da emissão em lingua Bitonga
10.00H	Anuncios de interesse publico
10.10H	Programa sobre a Saude
11:00H	Informação Local
11.05H	Dedicatorias
11.30H	O Distrito no seu receptor
12.00H	Música local e Anúncios Públicos
12.30H	RM Jornal – Simultâneo RM

13:00H	Anuncio de interesse Publico
13:05H	Dedicatorias cont.
13:50H	Fim da emissão em lingua Bitonga

2ª emissão

Emissão em língua portuguesa

Horas Programas	
13.55H	Abertura da emissão em língua portuguesa
14.00H	O Distrito no seu receptor
14.20H	Anúncios Públicos
14.30H	Morrumbene Show
15.30H	Espaco Publicitário
16.00H	Noticias locais em Portugues
16.05H	Música Variada (animador de cabine)
17.30H	Dedicatórias
18.30H	O Adolescente
19.00H	O Distrito no seu receptor IIª Edição
19.20H	Compromissos Comerciais
19.30H	Jornal da Noite da RM
20.00H	Anúncios Públicos
20.05H	Bom apetite (Musicas para acompanhar o seu jantar)

21.00H	Noticias Locais
21.30H	O Final de Semana
03:00H	Fecho da Emissão – Hino Nacional

Sabado

1ª emissão

Emissão em língua Local

Horas Programas	
05:00H	Sinal de Abertura estação
05:05H	Hino Nacional
05:10H	Morrumbene Total
05:40H	A Palavra de Deus (15min)
06:00H	Bom dia Morrumbene e arredores (Dedicatorias)
07:00H	O Distrito no seu Receptor
07:20H	Anúncios de interesse público
07:25H	A infância feliz (em lingua Xitswa)
08:00H	Informação Local
08:05H	Sena Aberta (Teatro Radiofónico)
08:30H	Bom dia Morrumbene e arredores (Dedicatorias Cont.)
09:50H	Fim da emissão em lingua Xitswa

Emissão em Língua Bitonga

09:55H	Abertura da emissão em língua Bitonga
10:00H	Anuncio de interesse publico
10.10H	A infância feliz (em Bitonga)
11.00H	A hora do Governo
12.30H	RM Jornal
13:00H	Anuncios publicos
13:05H	Dedicatorias
13:50	Fim da emissão em língua Bitonga

2ª emissão

Emissão em língua portuguesa

Horas Programas	
13:55H	Abertura da emissão em língua portuguesa
14:00H	O Distrito no seu Receptor
14:20H	Espaco Publicitario
15:00H	Infomação Local
15:10H	Infância Feliz
17:10H	Boa viagem
18:00H	Anúcios Públicos

18:05H	Musica variada
18:35H	Memorias de Samora
19:00H	O Distrito no seu receptor IIª Edição
19:20H	Compromissos Comerciais
19.10H	Música Variada
19.30H	Jornal da Noite da RM
20.00H	Dedicatorias
21.00H	Noticias Locais e publicidades
21:30H	O Final de semana
03:00H	Fecho da Emissão – Hino Nacional

Domingo

1ª emissão

Emissão em língua Local Xitswa e Bitonga

Horas Programas	
06:00H	Sinal de Abertura estação
06.05H	Hino Nacional
06.05H	Música Mocambicana com destaque para local
06.15H	Bom dia Morrumbene e arredores (Dedicatorias)
07:00H	Informação local (nas duas lingua)
07.05H	Bom dia Morrumbene e arredores (Continuação)

07.20H	Anúncios de interesse público
07.25H	Resumo de Informação Semanal (relevante) nas 2 línguas
08:00H	Escolha nos tocamos (Interacção com Ovintes)
11:30H	Fim de interacção/``Magazine``
12.30H	RM Jornal

2ª emissão

Emissão em língua portuguesa

Horas Programas	
13:00H	Abertura da emissão em língua portuguesa
13:05H	O Direito da Criança
13:35H	Musica Local
14:00H	O Distrito no seu Receptor
14:20H	Compromissos Comerciais
14.30H	Satelite Desportivo
18:00H	Anuncios Publicos
18:05H	A Cidadania
19:00H	Musica Variada
20:00H	O íntimo
21:30H	Bom descanso (Musica calma)
22:30H	Fecho de Emissão e Hino Nacional

APPENDIX D

OBSERVATION GUIDE

Date of observation:

Items to be observed:

1. ICT infrastructure set up in the CMC, such as number of computers, scanners, fixed telephone lines, and satellite dishes.
2. Type of Internet connection available
3. Speed of Internet connection.
4. Check the type of websites commonly visited by reporters while searching for agricultural information.
5. Other sources of information (e.g. CD-ROMs, local, use of mobile phone) which are being used by the reporters to access online agricultural information.
6. Check reporters' activities days/hours in the CMC.
7. Check community radio reporters' activities during agricultural programme meetings.

APPENDIX E

INDIVIDUAL INTERVIEW GUIDE

Name of the respondent:

Date of the interview:

1. Where did volunteers get on-line agricultural information?
2. What kind of on-line agricultural information did volunteers browse?
3. To what extent the usefulness of on-line agricultural information broadcast via community radio?
4. Are there challenges faced by volunteers during on-line agricultural information seeking?

5. What could be improved in terms of on-line agricultural information in order to address aspects of this district?
6. Who should drive the process of on-line agricultural information seeking?
7. If regulator or the local government intervention to ensure the usefulness of agricultural information sought on-line and broadcast via community radio is required. What sort of intervention will that be?
8. Do you think that direct communication between farmers and reporters can improve the usefulness of agricultural information being sought and broadcast?
9. Comment about the relationship between farmers and reporters in improving farmers' activity?

APPENDIX F

FOCUS GROUP DISCUSSION GUIDE

Date of the discussion:

Number of participants:

1. Where did you get on-line agricultural information?
2. What kind of on-line agricultural information did you get?
3. Which on-line agricultural information sought and broadcast helps to improve agriculture?
4. How on-line agricultural information sought and broadcast helps to improve agriculture in this district?
5. Are there challenge faced during on-line agricultural information seeking?
6. What could be improved in terms of on-line agricultural information in order to address aspects of this district?
7. What kind of on-line agricultural information would you like to hear/broadcast that they are not broadcasting now?

APPENDIX H

Website Strawberries' disease



<http://www.sobiologia.com.br/conteudos/Reinos/biofungos.php>

APPENDIX I

Nutritional properties



<http://culturashorta.blogspot.com/>

APPENDIX J

Herbicidas banana



<http://sistemasdeproducao.cnptia.embrapa.br/FontesHTML/Banana/BananaCeara/plantasdanh.htm>

APPENDIX K

Preparation of nursery beds



http://www.cultivando.com.br/f_horta_canteiros_4.html

APPENDIX L

Plough on the Garden



<http://www.portaldojardim.com/pdj/2009/10/13/como-preparar-a-terra/>

APPENDIX M

Banana production



http://www.frutasnobrasil.com/como_plantar_banana.html

APPENDIX N

TRANSCRIPT OF FOCUS GROUP IN NAMAACHA

Focus group discussion in Namaacha

What is the relevance of CMC in the district?

Hernane: In fact, it is interesting your topic because the major part of us who have agriculture as our major activity, I do not know if they are all but personally, I do not have possibility to access internet and this can contribute to do things in the wrong way. Personally I do not know how to operate a computer also I do not have financial condition but the radio facility this access

I think that should be important an existence of an organ here which must be in contact with us curious of agriculture that do something in this area such like me and him, and other. This organ must coordinate with us. It is important that that organ comes and take some information from us, what we are doing because there are many things which we try but we cannot manage due to lack of knowledge and through internet it is possible to find solution. From internet they can find solutions of our problems which we have which are not few. That is why, it is necessary an organ here in the radio, I do not if what I am saying it means that I am out of date maybe such organ exist but if exist I do not feel it.

If there is this space where we can go and get information in order to overcome certain problems which are a lot that is good. Many things which we do, we do base on curiosity, for example, he produce strawberries and others things. I also produce strawberries but personally I am more technical. I produce strawberries practically I can say that after the first era I was the first person who appeared here in Namaacha to awakening. Maybe I came to revolutionize this crop. It was not my intention but at end it happened like that.

Errasmo: well! Answering this question we listen from the radio information about market prices but not how these things are being done. The question is that what my fellow was questioning is how to make that beautiful information that exists on the internet. These agricultural techniques which are available on the internet such as improved techniques, how is possible to make them available to the farmers.

The first time that I saw internet was here in the telecentre with Herminio. I told him that my strawberries are facing serious problems I lose all of them. He said that, I have website. We

browsed and I took a book about strawberry. I saw the drugs and I overcame the problem. I overcame the problem because the internet comes with all information: cultivation system, fertilizers, diseases, and pest. My case was about fungus, we saw which a disease was and that information also described the medication. I went to the market and I bought the drugs and I applied. I overcame the problem but it was a problem which was threatening a lot of people and in our meeting no one could to distinguish what kind of problem was.

Speaking about the strawberries' crop, if I am not wrong when we started in 1999 we were 200 farmers of strawberries at district level in Namaacha but today if we make a balance we are not even half dozen. Many people who did not get information they could not managed the situation. Well we have internet here which is a good tool which has a lot of information.

Personally at the beginning of this year I went to internet and I got a lot of information and I put in my flash about mangos, fruits. This time I browsed from my friend's house. It means that internet give us an opportunity to know many techniques. What there is in the world and we consider as things of the first world, the internet bring it to us, but how to make it available to others people. Personally I thought by the rural extension and I think that here in the district of Namaacha we have serious problems with extension workers. Something it is a pest which damage our crop and the farmers in that moment they do not know how to overcome such problem but if we have help from extension workers and visit and give information maybe we can overcome. We can talk about agricultural seasons, personally at the beginning of the year I asked a friend of mine what is about the forecast of raining this year, if we will have success in our first epoch or will be the second. Nobody could to tell me. It is big problem of people plant without known if it will rain or not. It is a crucial problems and grave and must be studied and awakened

Julia: I will not talk a lot because I don't make part of the same production of the previous speakers. So I will talk about what I do. Where we work, we need a technical because we do not have technical this is the first thing which we want here. We work as we know the work and the horticulture grow. For example, the students do not suffer because we know how to plant cabbage. There are problems due to lack of fertilizers. They do not manage to get money in order to buy fertilizers but now we use organic fertilizers from shit of chickens because we raise animals here at school. For example, to scatter the fertilizers of the beds and sometimes the fertilizers are not available. So if there is someone who can help us even if

help us once a month, he come and help us other things. So I think that something would be able to change. Also we need a place where we can buy drugs because if we do go to Maputo city here there no shop which sell fertilizers.

Q: where do you get on-line agricultural information?

Joao: I will talk about an issue related to getting information. We reporters, we face problems to get information from the farmers. I remember once, I went to farm's area of the bridge to find out what difficulties they had encountered. They said we have no problems but there it was possible to notice a healthy production and a production that maybe had an illness like pest but they said we have no problems. I do not know if it is a result of lack of information that what is happening with their crop is harmful or they have those ideas that even if I tell these reporters he will not solve my problem.

In Namaacha are few people who have culture of giving information. Then it also constitutes a problem which we face. Then I return to the station and broadcast that in that area there are problems it is difficult. What is happening is that I go to internet and I see that this information can be useful to the farmer and then I download it, I select and broadcast what I think that is useful. Sometimes it is not exactly what the farmers need. We have this kind of problems.

Herminio: I have to say thanks to MR. Hernane, Errasmo, Aunt Paula and Eusebio who passed away because those were not my audience. I don't know how often I met Hernane and he was asking about a book of watering. I want to say that not only internet is a source of agricultural information.

Another thing I had to be careful when I deal with on-line agricultural information, internet has information but the vision of agricultural program was not to satisfy Errasmo who is high level of farming because he produce and sell even in Maputo. It was not the aim of the program. "Hora do campones" is deal with farmers on the base. It goes until those farmers who do not use pumps but they use open wells which are located along the rivers. It is from that level that we can say that program is helpful. Now, what was happening is that there are some big farmers in the districts who call or write about their problems, the witness of this is **Paulo**. Then in certain moment I used to go there and they did not get that they were teaching

me and who was doing the program were them because I was doing the program according to their response.

To talk about internet, I think internet is in certain level in which my audience will not understand. I do not if I made it clear. If Errasmo had come here because of 20 plants I am sure that we would not spend time with internet. It is just to see how people perceive the internet.

Errasmo: for me the gist is what I was saying earlier is to get information from the internet because there is lot information which is useful and make it available even to those farmers who use short handled hoe. The government has been boosted a formation of associations, I think that from that associations we can start from those associations there are association compost by 80 farmers if we make available on-line agricultural information to those 80 and each farmers talk with other, it means more 80 farmers will benefit from that information. Are you imagining how many farmers get that information?

Q: what kind of on-line agricultural information do you get?

Herminio: to question of Errasmo I browsed and the first thing which I wrote was pest within strawberries' crop and a lot of websites came in which they spoke about lizard, pests, aligning sheets, and other techniques which they were talking about production in greenhouse, but this technique I also saw it at Hernane's house. It was after we have been downloaded and when I went to Hernane's farm. That is why; I was saying that people like Hernane were not my audience because I was not going there to teach but to learn. Those people use their knowledge adequate it to the local situation of Namaacha.

The downside which internet has is related to language which I was not able to decode and say it at level of the base. Once I talking about pine leaves and I said kapok and I said kapok on air as the program is in Changana I said " u teka sumauma" which you will find on Cascasta street but later I realize that kapok was type of crop. I read it about kapok as crop but when I was reading I confused pine leaves with kapok. I read kapok, I was saying put kapok under the strawberries leaves in order to bypass problem of decay strawberries. So after a while some people started complaining. This is the difficult.

Q: what should be done in order to make on-line agricultural more useful to development of agriculture?

Errasmo: I think that must be more explored because in the meantime is underutilized. The radio must persuade people because it is more accessed by many people and then it can persuade people to explorer internet because it is good tools. Personally this year I improved my production due to internet.

This Mr said that he went to farm's area and they said that they don't have problem. They have problem, there is no association without problems. They have problem of water I am part of that association and every years we run out of water and we stop our activities due to water outage. On the internet shows watering system which save water such as drip system and we can see on the internet.

Hernane: we are applying the drip system in my farm and it save water. If there are problems of water we have to find solution in order to use the little water which we have wisely. But the problem is that our farmers do not have that information and this thing of drip system they think that is something from other world and it is not related to them because I used to get water from the river where there is a lot of water and introduce pumps to pull water.

Errasmo: for example, in this year I planted strawberries using plastic, but I saw it this year on the internet that it is possible to produce strawberries using plastic but I have friend who have plastics for more than 17 years in his warehouse and he does not use.

Q: how radio and internet must be explored?

Herminio: I could give this idea if it is possible to have, I think we can create at level of the radio a program in which we give responsibility of a group of farmers and we will say today or Tuesday we will hear Hernane who will talk about his experience around the production, for example about the a certain crop which is being produced at district level of the people who listen to the radio.

The work group will download information in advance and translate in order to guarantee that Hernane who will make the Portuguese program and for Aunt Paula who will make the program in Changana. In this way, I think we will rationalize the staff because people listening only one reporter talking about something in which he hasn't domain, people change the channel.

My experience showed me that when we had production of chickens, many people started raising chickens and ducks and we started broadcasting about laying hens and many people started raising it as well, people like Amilcar who after sometimes he was raising approximately 300 and 400 hens. The school as well there was approximately 1000 hens. It is just idea where the program went.

It is true that at internal level we have problems with our antenna it does reach all areas but it is happening due to landform of the district, Hernane has problem to listen but there many people from Changanane, Boane who listen perfectly and they call even from neighbourhood central, Mafuaine. In this case we have to update this situation but it is at internal level and to overcome it is necessary to buy new tower and new transmitter and put in those down areas. But before this we have problem of incentive to those people who produce those programs, you know in order to produce a program with and it get good quality it requires a lot efforts which imply go to the field to talk with Errasmo for example and after that you have to go to another area in order to compare, it is hard work and we spend a lot of energy. Now! if farmers come here to do de program maybe things can be different and it can have another dynamic and they will leave with experience of using computer.

Joao: I would like to add within the Herminie's idea when he says that for example we can call Hernane or Errasmo to the radio in order to get their experiences. So the internet can be used in this way, you said earlier that that exist website with strawberries and use of greenhouse technique and you saw it at Hernane's farm. He was implementing such technique and then we can bring such websites and broadcast such information and at same time Hernane will explains with more details how he applied that technique at district level.

Herminio: what I saw at Hernane's farm was: there was a plastic but also there was a net in order to combat birds, then those are things that can be broadcast. In one of program I said that here in Namaacha we produce strawberries using this technique and Hernane is the witness of this experience.

Julia: indeed, this program can awakes many people because it will show us how to do things and it will demand a meeting where us who does agriculture will discuss and who will tend to be apart can be called and give advice. If someone does not want to follow what is being told he will be alone and those who want to follow will follow. I mentioned earlier the

problem of tomatoes which die and we do not know the reason so within the program we can learn something but must have someone who can help us who will guide us.

João: when someone says that there are no problems, it is mean that he does know because there are small problems which maybe he does give much attention. He thinks that it is not a problem but after sometimes those small problems will harm. It is not different from someone who has poultry chickens and some disease such Newcastle, the one chicken dies and in the following day another die and in the third day appears a journalist and asking are there problems? He will say no problems maybe because the death of those chickens did not harm him yet. He think that it is normal, then I think that there is this kind of problem maybe they do that because are at low level in terms of development because those who are in high level are those the death of one plant is reason to be worried

Q: what kind of on-line agricultural information should be broadcast and is not broadcast currently?

Errasmo: by my part besides strawberries I went and I got lot information about fruit because I put Namaacha as a privileged district because of kind of weather which we have here. We have exceptional weather. We are here in Maputo province and Maputo city is consuming all fruit which come from South Africa and that fruit come from? It comes from Nelspruit where the type of weather is the same with Namaacha. Why can we produce? And we have on internet techniques to do that. I went to internet and I saw grape and mango even cherries. Internet has all information. Why do we explorer this part of fruits. We can produce something which Manhiça does not produce but because of our weather which we have here we can explorer this part. Also the internet help a lot to explain this part of weather in term of advice what must be produce in this season and another season. Information is related to fertilizers, the composition of the soil which we have. Internet has a lot of information. That is why I mean the CMC is underutilized.

Hernane: talking about Manhiça the major production is banana, sugarcane because Manhiça's location is suitable for such production. He was saying that Namaacha has exceptional weather and then one thing that, it does mean that Manhiça cannot plant strawberries but will not develop like here due to weather and fruit from Mediterranean area such as apple, grape, and pears. All these fruits can be produced here. The only problem is related to information. Some years ago, there was but people when you mention the past they

say we attached to the past. In colonial time in Namaacha there was even are couple years ago, fifteen or twenty years ago we had here a production of grapes. There were here fifteen hectares of grape trees which used to produce wine table even for wine and things went through very well.

Julia: what I want is that, the radio must broadcast information which we can understand and implement it. I do not know if I am wrong. Here in Namaacha there are problems of water even here at school sometimes we stay without water and we suffer and when it is raining the problems are worst.

Hernane: radio has an important role to development of the community, indeed. There are a lot of information which can be broadcast to the community e this can be done via radio to those people who we consider as people of low level. Currently, I don't means that we are developed but at least we moving toward that direction because it easy that each farmers can have a radio set or mobile phone and then if we know how to use those tool the Radio Cascatas can contribute to development indeed, in all aspects, not only in agriculture but also in social aspects. There are a lot of problems in the country which are being solved via radio not only radio but television as well.

Q: who must be the driver of on-line agricultural information seeking?

Hernane: Here, I think that there is a problem of radio reporters. What I am feeling here is that they want to do that but there are problems of resources of how to do, resource such as transport. That is, in order to go to source. Then I think that this is the problem which they are facing. Another problem is related to the fact that even when they go there, when they arrive, the farmers, I do know if it is happening because we were colonized by Portugal. That is, the farmers for many years were forbidden to give information because of fear in being tortured but this situation is changing bit by bit due to democracy but farmers many time they don't know how to express their problem. It is not because they don't know their problem, but they don't know how and what to say.

Another problem is related to the fact that our reports are not well trained

Another issue our reporters are not adopted of knowledge about how to get information, for example to make a good story about agricultural issue, reporter needs to have some basic

notion or knowledge in agriculture. It could be the problem. I want to go to Errasmo farm, he plough strawberries, the reporter must know about strawberries in order to question Errasmo.

Errasmo: for example, he went to that association and they said that they do not have problem but there is problems but he could to see.

Hernane: he has to have ability to see in locus that there are problems.

Errasmo: personally I would give this advice: now we have UNAC, farmers' association, they have a branch here and it work at former fruit factory. They contact with all associations in the district, besides that the association has some motorcycle. I think they can be the link, with information from here and internet can facilitate the exchange, it can be useful.

Now! We stand and wait for farmers will come to the telecentre or to the radio or call, I think that it is difficult because a lot of time farmers do not have time, for example there are farmers in my area that even at 7 pm, they are watering their farm because the time scarce. Then I think that radio must awake the problems. There are common problems, for example, the problem related to pest of giant grasshopper it is problem which sometimes affect all farmers in Namaacha then when reach such moment it is necessary to take action.

We are reaching the time of fires for example, must be the radio which must persuade people to stop making fire or forming barriers. The radio must tell them to clear the fruits trees. This information must be broadcast now because it is this time which people make fire. So, this work is done with collaboration.

What I mentioned earlier about the seasons, when is favourable if it is in the first season or second the radio must broadcast in order to help the farmers. For example, this year the first season was bad we did not produce and the people who plant in the second season they got some harvest. It was known in advance that in the first season will not rain because information was available on the internet. Rain only from 15 January and indeed the rain started in that time but people who planted in November did not have success and to hire a tractor it was expensive and many people cannot afford. That is why, they did not take risk.

Q: what your opinion about the relationship between farmers and reporters?

Errasmo: I cannot answer this question because it is rare case myself I have never had a privilege, I am curious I come to CMC and I look for solution if something is going wrong

with my production but I think that lack the part of reporter, they must go to the farm. They must be more present there maybe can be the justification which they gave us related to transport. But I think that the reporter must go to field, they must be present on the field. I think that it can work. Later on when the farmers discover that I believe that they will adhere

Herminio: I also think that another problem which exists with community radio is related to lack of what we call incentive. I was chatting today and I realized that the program can sustain itself but it is necessary to create a strong structure, for example, have you ever imagined at what time the radio open? At 5h and 55 minutes and it close at 21 h and we work within a volunteerism policy. Volunteers, we are talking about people who come when they want because they want to be known and the majority of volunteers are students who are doing grade 9 and 10 and when they reach grade 12 the tendency is to see new horizon.

Now! If program such like these are not under responsibility of volunteers but are under farmers and farmers are responsible to map the timetable where they say today is the aunt Paula's turn. Here the reporter will be there only to help the technical part or to edit the program. At level of people who will make the program, they will decide if tomorrow, they will go to changalane or they will solve of another neighbourhood. It is within, this framework in which community radio works with volunteers. Now, I am the sacrificed in all this process but when I passed to the telecentre where I teach basic training of informatics, the administrative part and also I am in the secretary. This situation became worst because some of my colleagues quitted, practically I have to choose one thing or my work or volunteerism then I stopped. Now I do not know how long I do not go to see Hernane what is doing because I used to go with two purpose: one to see and another to learn how he fetching water, how he made the water tank, while I am watching and the same information I broadcast.

I was saying that we open at 5h and 55 minutes and we close at 21h, where will I get time here? And the program "hora do campones" because I did agri-livestock I was linked and I was able to bring more dynamic and I could interview Errasmo and with him notice and solve his problem. Interviewing Mr Hernane without his notice and solving his problem as well.

Hernane: is there a way in which community can sustain the radio?

Jose: there are many way in which the community can sustain the CMC. For example, the farmers can contribute for the person who is assigned to the program and the person has duty in search information which farmers need and broadcast to farmers. I do not know what is necessary to be paid monthly because it will depend on the model to be used.

Hernane: following this perspective, Errasmo has bill to pay because he had problem and came here and his problem was solved.

Let's put things in practice, I am a reporter and we are doing this program to farmers which we can call going to the farm. In this case, I go to the farm and I find a farm and I tell him that you ploughing strawberries who say strawberries can say maize also we plough a lot of maize in Namaacha. You are doing it wrong and in this way you are going nowhere but if you plough like this your production will increase and you will get a good result than which you will get doing as you are doing. If you do as I saying, personally I bet with you that your production will double or triple your production. Then, if farmer has success, he has duty to give something to the radio.

Errasmo: we are talking about things of other world because we are in society in which people do not pay tax for example. We have problem in my area the municipal open a well in which we use pump to pump water and everything is automatic. What is necessary is to but electricity.

Hernane: is it work?

Errasmo: it worked, what is happened is that the municipal set up pump also put the energy meter with a certain amount of free watts and when the free watts ended also fetching water ended as well because the community has no money to sustain the system. Let's image how money was spent to set up that system. The community has duty to contribute in order to sustain the project. But it is not what is happening. I wish that this project will work and people get interested in help the radio, in order to be different from the well which is there as we have telecentre and radio but we are not using efficiently.

Hernane: there is another example here which is frequent, the giant grasshopper it is a dangerous plague. In few hours can clear a farm. The reporter go to the farm where is happening and tell the farmers that in order to overcome this situation you must use this drugs. By broadcast such information which solves the problem of that farmer. The farmer

has duty to pay. We do not know how much if it 200Mts or 300MTs. Those small donations from the community could serve to sustain the radio.

Errasmo: I think that there is a need for collaboration with department of agriculture because we do not have extension workers here also the reporters do not have formation in order to have basics of agriculture. We are talking about agriculture or livestock; personally I do not understand many things which I read, but if there is someone trained such as extension workers I think that they can give another dynamic.

APPENDIX O

TRANSCRIPT OF FOCUS GROUP IN MURROMBENE

Focus group discussion in Murrombene

Q: where do you get on-line agricultural information?

Joana: for my part, I get agricultural information while talking with some farmers in my area. My grandparents have been practising agriculture and when I need some information or I don't understand something I ask for their guidance on how I can produce this and that.

Q: How did you get the information available on the internet?

Joana: via computer in the telecentre.

Arlindo: beyond the information which we get from agriculture experts. I have done research on the internet, for example, when I was about to begin my production of banana. I was interested in knowing more about banana before I launch myself there, I had to browse in order to get information. That was my point of departure. Sometimes I consult other information when something is not working out in my plants. I browse it and seek for any information which can give me explanations. Even when I consult the agricultural expert sometimes it is necessary to compare information got from the expert and from internet and come up with my own conclusion according to your practical activity because the reality of other countries is different. It is necessary to adequate all of it; therefore I have used internet, radio and information from agricultural experts.

Paulo: I only use radio to get agricultural information.

Carlitos: for me, I do not differ from what Mr Arlindo said. I use internet, some books about agriculture but also I speak with elders who have huge experiences in that area. When I was about to start some beds in my house I looked for information about how to look after that beds, what are the procedures to take care of beds and then I based on internet because on the internet it is not just one person who gives their opinion there are many people who will talk about the same issue and they give more details.

Arcajo: myself I don't use neither internet or radio I use my experience as a result of many years in agriculture as our extension workers do not come to our farm, if something I am not aware I try it until it get right.

Arlindo: I think that what is happening here requires that radio creates space where people can send their concerns to the program in order to be answered because if there are some questions and the expert does not go to the farm they can answer those questions via radio. I think that the contact between radio and farmers must be extended. The agricultural program must have more contact with the farm and bring farmers' concerns and call the extension workers to reply those concerns.

Carlitos: exactly! Indeed, having a space here in the radio where farmers can discuss their concerns can be value because the experts do not reach the entire district but through radio it is possible to reach more people.

Q: what kind of on-line agricultural information is sought and broadcast via community radio?

Arlindo: for example, when I wanted to produce banana, one of my concerns was, I had to access internet to get information about what kind of crop which can co-associate with banana and the characteristics of the soil as well. Well that was some of the important data and also the drugs. It is true that I could not manage to find drugs here because in terms of drugs we do not have anything but looking for information about what can or can't be done is important. We prefer not to use fertilizers because I prefer a natural banana.

Joana: yes! It is true what pastor Arlindo is saying. It is what many people looking for when the go to internet. They are looking for information about type of soil, soil fertility which soil is appropriate for agriculture. For example, horticulture must have fertile soil, fertilizers. They seek to know how to produce more.

Q: how the on-line information is being useful?

Arlindo: for example, I use herbicides to produce banana, I don't need to till the soil. As a result, I have big banana with one worker. He only applies herbicides and controls the ditch and weeds. It is my option where I save in terms of intensive labour on the farm and herbicides and I solve my problem and I producing. Although this technique takes time to see the profit because the soil needs to be used of herbicides but my production is increasing annually and I am gaining.

Arajo: well! I listen to the radio and I watch on TV about new techniques on agriculture but this is not enough the farmers must use their brain in order to apply such techniques. For example there are some people who use fertilizers and others do not.

Paulo: I listened to the radio about the new techniques of making beds as I was doing it according to my thought as I farm rice and lettuce, I started opening small beds with one meter and half and sowing and due to this system my production improved.

Q: what kind of problems do you encounter when browsing on-line agricultural information?

Armando: I think that there are indeed some problems, for example we can verify that some information is general and the techniques explain how to produce product X and when we look at the reality here in the district we do not have such techniques. When we look at the way how to apply such techniques we have to make some make effort in order to contextualize such techniques in order to apply. Also, the type of soil, well! The type of soil internet does not explain. Internet explains other countries and provinces.

Arlindo: well! Basically the question is, for example we can see seasons for seed of something, for example here is normally to plant potatoes in June but I realize in the area where my farm is located it is not possible to plant potatoes in June because until September the soil is still humid and the potatoes get rotten. There are those situations which must be addressed in the practical. This is the big challenges, to understand what others are doing and looking for ways to adjust it in our reality. But it is not all areas of Murrombene because there is an area where in June it is possible to plant potatoes and it grows very well. That is the matter of one area; each case is a case as people say. I am in my area and the

characteristics of my area are completely different from another area. Maybe those who have a lot of problem, extension workers can help in order to frame that information of internet.

Q: what should be done in order to make the CMC more useful to development of agriculture?

Arlindo: I think that the big problem is to adjust the on-line information to the reality on the ground. Then there might be a necessity to involve some agricultural technicians who understand a little more about agriculture in order to take that information and work according to the terrain and specific area and the information will be released perhaps with a little more consideration of the targeted areas and population. Look at the Funvela area, it has these characteristics then can be applied this and that in the season X.

At the end we do not see the presence of extension workers within the district because they do not go to the farm. If they go nothing they do there, they arrive and they don't say anything. They do study the area, they do not analyse the characteristics of the area and make some link with some material found on the internet which are very important and help a lot. I think that on-line agricultural information needs to be framed. The big problem is to take information from internet and apply in our reality.

Arcajo: well! I don't have any idea. What is missing here in our district is related to lack of help in this field of agriculture. The experts, when they come to the farm, they stand far and return from there so they don't help. For example they must tell us that in the area you need this and that. I don't know if it is lack of time or it is the way they work, I don't know.

There was a person who used to help us, he was an agricultural manager. That one helped, he was able to give information but now those who remain they don't say anything. That is why we do according to what we think. They cannot help us with other things but they can say something about the soil that the soil needs this and that or this seed need to be treated like this. In my farm I have never seen them.

Arlindo: it means that we are doing our activity without knowledge of the facts but in fact those who have information if they were serious with their work, it means that we are able to reach high level of production but at this moment the person try until he/she find the right way and then when he does not find he continues trying until he finds it. This fact is a reality

that extension workers are missing. The extension workers are just showing off with their motorcycles. Fieldwork, really does not exist because we want extension workers who are able to go to the farm and give instructions about what must be done.

I remember when I was about to introduce herbicides some of experts disagree with me. They said herbicides will damage the soil. Only years later, they started saying that it works. You are producing. That is the situation, if the experts who must encourage me in using the technique but is the first one who discourage. Now! They started implementing because they saw it from a simple farm, it is sad but also there is a certain laziness of extension workers themselves or maybe bad formation.

Q: What kinds of on-line agricultural information which do you want to listen and is not broadcasted currently?

Paulo: I would like to be helped in our farm because the extension workers do not reach our farms in order to explain. They come and see that we are working but they do not give us ideas about how to improve.

Carlitos: there are new techniques on the internet for example. The radio does not broadcast such information but if these techniques were broadcast as Arlindo said the soil is different from one area to another. Taking Murrombene into account which the land has different characteristics, then the population is not aware how to use fertilizers. I think it can help to create awareness and they will be able to act based on the fact that the soil is different.

In Pateguane, I saw that some farmers use organic fertilizers first when they are preparing the soil when they want to plant their horticulture but in other farms they just prepare the soil and plant. This difference creates problems because the farmers do not know how they fail to produce.

Arlindo: Well! I think that the radio must broadcast information about fertilizers. We are using chemical fertilizers but it is necessary to disseminate information which teaches people how to make organic fertilizer, the organic compound. It is possible to make organic compost. It is made by mixture of several things as result you have a compost. Instead of using “mpk” chemical can be used the organic compost...because is good for environment and does not burn the soil even if you apply too much. That would be great; it would save

also in terms of investment to the peasant. I think it would be to explore this kind of information.

Also the radio, for example, broadcast information about the preparation of the seeds. We face crisis of seed annually, this we had a crisis. Then it is time to start thinking to make programs which teach farmers to produce seeds or in order to persuade people who can produce seeds. The conservation of the same seed also it is necessary element to be broadcast. What must be done, how must be done in order to produce seed and have reserve as well.

Those are basic programs which can help a lot that is why they must be broadcast because they will help the farmers and talk about the organic fertilizers which can be applied whatever place in the district.

Now, many times the reporter when interviewing ask us what we are producing and how we are producing it. It is necessary to be engaged in use of new technology as well. The fact that we know that we need to use on-line agricultural information must be discussed a bit with some people who are on the field, those who produce also with the experts before we broadcast it because we can broadcast information and the people on the field say that it is time to plant rice and then the farmers plant it and then the production fail. Then it is necessary to be careful with on-line agricultural information due to the characteristic of the areas.

Arlindo: the radio must broadcast new kinds of crops but this must be done with help of expert in order to test if new crops are suitable to the Murrombene's soils, after testing it can be broadcast in order to be produced. We can produce sunflower who known maybe it can work. I know that years ago Murrombene produced cotton and we continue with the same soil or we can restart producing cotton or peanut but it is not possible to produce peanut we can produce cotton again.

Q: who must be the driver of on-line agricultural information?

Armando: well! I think that the process must start with each one of us, why I mean that start with each of us. The reporter can take information but information is not for everyone. Let's assume that Pateguane has a need but what I shall say does not interest them because they have other problems. What I will say responds to Jango's problem for example. Pateguane

who did not want that information has its own problems. If I say that start with each of us is that the reporter can only give information which he has access. That is why, the community which has problems should find ways of approaching the radio to communicate their problems. I think that it is important as well because the reporters are few and the farms are many.

Arlindo: I agree with you but at same time I want to disagree, why I want to disagree because we are working with peasants, who oftentimes are not educated and live in rural area and never left to see other things. It is you who must bring to him. So even to say that peasants will call in to the radio will not work. What really work is the reporter going to the field and seeks problem and difficulties and bring.

The big problem which we have here at the radio is related to lack of staff who works in agriculture because it would be those people who would be able to identify the problems and take them to the program. For example, if I face problems in my area maybe other people are facing other problems in others areas. Maybe if we work toward this maybe it can work. The reporter would go to internet to enrich. Talking with the farmers in order to give information maybe it will work. But waiting for farmers I think, we are thinking aloud, we are not at this level because our farmers are few who have vision. The majority are people from the low level and they never had contact with internet, their maximum is mobile phone and listen radio only, even when they listen they do not talk about their problem. How will they know that exist beet if they have never heard about that and what is it for? Basically who must explain to them is the reporter.

Armando: No! I don't mean that we have to stand and wait. The reporter is doing something. He is in another community and other community simultaneously is facing urgent problems, well I won't mean urgent problems but can be because for example the flood is devastating the crop, the journalist is working I another area and experts we don't know where he will be in that moment, I think I will not mention that but the reporter in this situation is dealing with others communities so those communities which want to express their problem using radio. So they won't say that they waiting for journalist to come because the journalist can come but later while the flood already destroyed all production.

Arlindo: yes! I have to re-say that, it is good to bear in our mind that we are dealing with peasant in the district, we are not in the big city like Maputo, if we talk about green area in

Maputo because who plough there they belong to different level in terms of thought or vision that is why I mean lot of stuff must be done by reporter. They have to contact the farmers and we come back with information and browse in order to find solutions if locally are not available. It is within this process which I mean the extension workers must be more dynamic and be able to work together with reporters in such a way it can bring those new crops which we mentioned earlier. Because here the new crop the farmers do not know and they have never seen. They will never raise question like we need beet. They don't know the advantage to eat it and that information must be broadcast by the reporter and the expert has to be close because of test which i mentioned earlier.

Arcajo: I don't have another idea. The idea which I see is related to what Mr Arlindo said earlier that the majority of farmers here they don't understand, they only plough in order to help themselves other crops how will they know? In this term, the radio can help; we need help because there are many things which we are not aware. Even me who is working in agriculture for many years, I don't know everything but if we have help or at least the radio call the technical to help farmers maybe we can produce more than what produce now. But now I don't see signal because each one is doing whatever come to his mind.

Arlindo: I was saying that in this agricultural program extension workers should be involved because they know the reality of the field and the radio has problems of reporters. The majority of people who are working are students' volunteers so when they come out from school; they do some services here for a time and leave because they have to review their homework. This is a situation in which the radio is facing. That is why; it is not easy that reporters circulate. That is why, it is necessary to have support and the State already created such support that is why we have extension workers though we regret due to that fact they are not doing their work properly but it is their responsibility to verify and give ideas to farmers. It would be them who go to the farm and tell the farmers that we have to test it because we test it and it works. I believe that it would be necessary to investigate on the internet. The internet should be used to enrich the text or the reporter will go to internet to consult more and ask the farmers why you do plant that crop because it has this and that advantage. All these processes demand interaction between extension workers and reporters of the agricultural program also with the community.

Q: what your opinion about the relationship between farmers and reporters?

Paulo: basically the reporters visit our farm but only visit where we plough rice.

Arcajo: in my area I have never seen reporters and this my first time to come in contact with the radio.

Armando: it is that what I was saying earlier that there is a need to have a relationship between reporters and extension workers because more than reporters, extension workers know better the place where farmers plough. It is our duty to walk around the entire district as journalists but there priorities as well, for example, at the Pateguane farms the reporters are always there because it is a local where most people talk and they produce and farmers express when some problems occur and the experts pass through there as well. I asked him if there is banana plantation in his area because I don't know where his farm is located. Also we have problems of reaching those places; I am talking about transport for example if we want to go to Nharrumo which is far.

Arlindo: I said earlier that we have problems here in the radio because the majority of people who work are volunteers' students so when they come out from school, they do some services here for a time and leave because they have to review their homework. This is a situation in which we live. That is why; it is not easy that reporters circulate. We do not have reporters who are assigned to this program in order to deal only with agricultural issue. Because this program should have someone assigned only to that program in order to go and get information. That is why, this situation is creating problems. In terms of access farmers to the radio we don't have a person assigned 24 for hours to deal with these issues, this weakness we have, it is a reality that we cannot run away from.

Joana: I think that the farmers cannot wait for reporters to go there because if they wait their problem will become worse. If it is possible they can come we cannot send them away because we want to know the problems of the community in order to find solutions to that problem.

Armando: The fact that permanent journalist is required creates another situation. One that is required to work entirely with agricultural issue, as you said, he has to visit but how? It is from then that we have to understand from the farmers. It is true that are few today, this district has many farmers. Maybe we could find a way of joining farmers and we could think about the possible solutions of how we can help that person who is helping us in order to

reach our farms as I said earlier we are within community radio. Well I don't want to go through finances but I believe that the budget which community radio can make is little. It is complex if we take into account the expenses because Morrumbene district is big. The villages are located far from each other. Who wants to go to Baiamo for example and goes to Jagoo, Pateguane, it is true that he will not go in the same day. All of it, I think that if we work together with farmers not only those who are here but with others in the district the program can be improved another thing is to create a partnership with extension workers because they have motorcycles so sometimes it is possible to work together. This problem is raised when the CMC need permanent journalists in order to circulate.

Arindo: I think that when farmers will produce a lot and their production get rotten due to lack of market then some will feel that the radio can help in publicising their production maybe in that moment they feel the need of helping the program because it help them to sell their products.

APPENDIX P

TRANSCRIPT OF INDIVIDUAL INTERVIEW IN NAMAACHA

Interview with responsible of community radio Cascatas (RCRC)

Q: The farmers and reporter claim that their communication is not strong. What is your comment?

RCRC: that is, in fact the relationship between reporters and farmers is not so strong because we work within volunteerism policy, and then it make that we do not have reporters available, because the majority of reporters are students. There are cases in which we do not have reporters to go to interview farmers. We will try to adopt a system in which we will have one reporter assigned to agricultural program. This reporter will work in order to cover all farmers' areas because the current system consist in one reporter goes to the field and get different information in different place then there is case in which all reporters are on the field in different places so there is no one to go and talk with farmers, so if we have one assigned to agricultural program maybe will facilitate the communication between farmers and reporters. I think that can work out

Q: how the on-line agricultural information sought and broadcast via community radio contribute to development in the district?

RCRC: This point is complex but also it is simple. In order to take on-line agricultural information to the community that information must be information that contribute to development of the community. I think that, this must be like this; we get on-line agricultural information after observing if at level of the district there are some farmers at this level. Besides broadcast such information we can call some farmers in order to come and witness. He/she will get the privilege in telling how he/she applies at district level, because there a case in which that information is not applicable. We can broadcast information which is not applicable in the district. Then when we call one farmer who is at high level in terms of agriculture, he/she will come to tell us in terms of practical how can be implemented at local level.

Q: If an intervention is necessary, in order to improve the quality of on-line agricultural information sought and broadcast via community radio, what kind of intervention would it be?

RCRC: by the part of government maybe major support would be the transport for reporter, because we have problem to do fieldwork in order to interview our audience. We cannot get there so if they can help us in terms of transport for example, the government go to certain area in which they are going to launch an agricultural campaign, they just go and don't ask any reporter. Now if they ask for any reporter it will be value-added to the community because reporter will cover they activity and also get some information which is useful and broadcast to the community such information if we do not have information or we do not have response immediately we can browse and via community radio broadcast it. I think it would be a way to develop agriculture at local level.

Q: Based on the resources available now, what is it possible to be done in order to use the CMC efficiently?

RCRC: it would be, the government create condition on time in order that people linked with agriculture, I am talking about extension workers who can come to the radio and speak with more details about the information which we got from internet. We get from internet and it has some words which we do not understand and then if we work with extension workers it clear that they must explain. It is difficult to download certain information and there is one sentence which you do not understand or it a name. You do not know what it is. And then it is difficult to talk about it on air because if you did not understand it is clear that the audience

will not understand as well. And then, if we work together with extension workers in order to help us I think that on-line agricultural information can reach the farmers perfectly.

Q: As responsible of community radio and member of this community, what kind of on-line agricultural information would you like to hear being broadcast and it is not being broadcast in the meantime?

RCRC: Another information which can be broadcast, for example, we have lot of farmers plough cucumber so I think we can broadcast such information. Other information would be fertilizers because there is case in which farmers buy fertilizers in informal market as such they do not have explanation about how to use it and then they take the fertilizers and apply incorrectly. Then if we broadcast such information about how to apply fertilizers I think also it can contribute to development of agriculture. Also information related to drugs of each crop. That is information about how to combat these diseases which attack. Other information can be linked to growing peanut, because annually in each season our district produce peanut, I think that getting information about producing peanut can contribute to development. Also we can speak about drought resistant crop in case of drought. What kind of crops that can produce in such seasons in order to get success in agriculture.

Q: who must be the driver of on-line agricultural information seeking?

RCRC: so, the principle must be the reporter to seek information and broadcast to farmers and then over time the farmers will realize the importance and then they will not wait for reporter to get information and translate to them. Maybe she/he will tell the reporter to talk about certain information, that is she/he will ask for help when face problems. Then there will be a reporter who will seek information but also farmers who complement because in certain moment the farmers can say that need information X. he need that information because they heard by the initiative of the reporter who sought information and broadcast. That information which reporter broadcast maybe there is a gap, the farmers have the privilege or initiative to come or call in to tell which information need. If we wait for farmers normally they do not have time, when they wake up they go directly to their farm and come back only to have lunch.

Q: Based on the fact that agricultural program is aired according to farmers' request, what is your comment about this model?

RCRC: Well! This model is not beneficial because it benefits one layer who is minority in our community. I say that because it only affects those who have resources and live near of CMC. While, there are farmers who do not know or do not have this information that they can call in or come to get agricultural information. And then, this model does not benefit all but we are working in order to balance and reactivate the program in order to cover all community.

APPENDIX Q

TRANSCRIPT OF INDIVIDUAL INTERVIEW IN MURROMBENE

Interview with responsible of community radio Millennium FM (RCRM)

Q: where reporters get on-line agriculture information?

RCRM: at first they get within the newsroom, the computer which is in the newsroom has internet access, beside the telecentre there are two computers which they can use because those computers are linked to internet VSAT is there where they browse information in order to enrich the program, they never used mobile phone, they use the computer with internet which we have internally.

Q: what kind of on-line agricultural information they seek?

RCRM: It is depend on theme. I think that as I said earlier that the majority of agricultural information we have council of extension workers. They know what the community need to know. I remember that in majority of programmes they seek to make farmers understand about agricultural seasons. What is necessary to be ploughed in these seasons and others seasons. Basically, the reporters go to internet to look up some explanation of some term related to agriculture. For example, why it is important to plough is this season.

Q: How does on-line agricultural information sought and broadcast via community radio contribute to development of agriculture in the district?

RCRM: at local level, I think that it help because I heard many comments from extension workers one of this days saying that there are many things they read and do not understand but when they listen to the program they understand better and they ask where we got such information and the response is from the internet. From that comment we understand that

extension workers are able to explain to the community what is necessary to be done in certain issue based on agricultural information disseminate via community radio.

Q: if intervention is necessary to improve the quality of on-line agricultural information sought and broadcast via community radio, what kind of intervention would it be?

RCRM: Well! It is very complex to talk about technology mainly in agriculture. I am doing this appreciation at local level, because it is necessary to understand that the majority of the community who are linked to agriculture have little knowledge or less use of information technology so I would say that we will have a lot of agricultural information in the internet, in one side it is good but in another in terms of consumption of that information by the community who deal with agriculture in their daily basis... maybe they will not have access, but looking at Morrumbene where we have multimedia centre and community radio and also looking at presenters of the programs and using agricultural websites. I think that it is important.

I also think that, in first instance, we need a website in which can make agricultural information of the district available. Second, well! A law that will force people or technicians to provide information, a law that is produced at the local level in order to look at what is consumed and this law must specify that those who are supposed to introduce information must follow this and that procedures for example.

I was saying that it is necessary a website with agricultural information maybe exist, may the ministry of Agriculture has a website with agricultural information but we do not use may because information available does not respond to this district. That is, is not useful in our district and then a website with local agricultural information where we can find agricultural information about the district and a law which force extension worker to put agricultural information, I think that such intervention can be important.

I think that not everything must be mandatory because it does not mean that information is not gotten because there is not law maybe as alternative it is important to persuade or sensitize those who have access to information in order to get such information and make use of it also broadcast it to others. I want to believe that exist information available on the internet but we do not have culture of browsing. So maybe in one point would be useful to

sensitize those people who deal with such type of information to get and provide to the local maybe it can work out.

Q: As manager and member of this community what kind of on-line agriculture information would you like to listen being broadcast and it is not being broadcast in the meantime?

RCRM: within the same line of thought in agriculture. Personally the major concerns which normally I hear are related to flow of the product to the market. They produce enough but there is no market where to sell the products. I remember there was a community which produced lot of rice but they could not find a market to sell their rice. So, broadcast this kind of information would be useful in order to make community aware that they sell their products in those places.

Other type of information is related to crop that they to cultivate in certain season. I realised in one of program which was aired that the majority of farmers only plough but they do not know the right season to plant. It is like planting by attempt if you wake up and you aim to plant lettuce they plant, if you wake up with aim to plant maize they plant. It means that there are farmers who plant this kind of crop but they do not understand that exist seasons. I do not understand deeply about agriculture but it is seem that it is necessary to control the season in order to know if this is rice season or this is tomato season. Then this type of information also it is important.

Another information is related to fertilizers, how to deal with. There are farmers who do not know, some because fear that it can create diseases others because they are aware. I think that information like how to use fertilizers, what is the relevance of that and what value-added fertilizers can bring. This type of information I think that can be important to be broadcast.

Q: what type of on-line agricultural information the radio broadcast?

RCRM: honestly it is very difficult, but well! The program which at least I listen, I hear that they seek to sensitize the community. They sensitize the farmers about agricultural seasons; I am talking about the procedure to be taken into account in each crop. They broadcast this kind of information. For example, when is tomato's season let's understand that with tomato, it is necessary to cut some leaves I don't know, and then they broadcast this kind of information.

Q: In your opinion who must be the driver of on-line agricultural information.

RCRM: in my point of view both are important because there is a part of journalist who is everywhere with information but also we have a part of farmers who have other kind of information. The journalist can think that the situation of the market for example is in certain way but the farmers who are on the field can say that on the field the situation is different. I think that both are important for that question.

In my person opinion, both are important and working together they can bring good information to be consumed. For example, a farmer and journalist can sit and think what kind of information to be broadcast; I think that it will be useful if both generate the information to be consumed. Thus, we would be able to have the journalist side who is always around and know what is the situation and the farmer who is on the field and is able to tell us that despise that the market is demanding this this the reality shows this.

Q: what is your comment about the relationship between farmers and reporters?

RCRM: the relationship is good! One of the problems which personally I am able to verify is related to the fact that when reporters do their fieldwork, I do know if you faced the same problem, maybe you could not see it; it is very difficult to find farmers. Farmers of Morrumbene are not associated if they are we do not have that information. Then it is difficult when we have a topic and we need farmers. It is necessary to search amongst us and asking who plough maize for example, who plough maize? We know one farmer is located in X place then I want to believe that if they were associated it would be easier to broadcast information.

Once I asked Sidai if there is any farmers' association here and he said that there is but it is located 70 km from here. Here in the town we do not have any information about association and it is challenging a lot our work in agriculture.

The relationship is good, but also it is important to understand that the majority of farmers are old and they have their own problems and looking at us as youth and them as our grandfathers it is difficult to work with them.

Q: are they have access to the radio?

RCRM: they have space but those farmers who we would like to be with them here in the radio, we never managed to get them. We have those, I do not know if I can call them as farmers or semi-farmers or what? Those small farmers close who produce only for consume and not to sell. Those real farmers who we want them to be here we never managed to have them.

What we usually do is to send a journalist to their farm to talk with them there. While we would like to be with them here in the radio in order to share with audience their knowledge and we open line to discuss certain aspects but it is very difficult. Sometimes they say in one hand that if I leave who take care of my farm on the other hand I old and I cannot move until there. Then it is not positive but with regard to having information they give us if we go there. They welcome us and give their point of view just they do not come to the radio.

Q: what kind of problems reporters encounter when the browse and broadcast on-line agricultural information?

RCRM: At first, it is necessary to understand that the reporters themselves do not have formation in that field. Then when the person does by will or because he read somewhere, he will run into problem when he tries to follow the subject. At some point, we have discussed about the topic. The topic we should take to the programme. That is why, we celebrate an memorandum with Sidai in order to help us because it is aim of CMC to have agricultural program, but we did not go through any formation. There is some term related to agriculture which we cannot manage to use, because we don't know and we are not aware about the meaning as such it difficult to look up because we don't know what we are looking for. This difficult exist despise the efforts which reporters are made, they try but we feel that there is a lot of challenges to the agricultural program

Honestly speaking, it is normal that within two weeks we aired once the program, not because we don't will to air it, we don't manage to get information, we still discussing what type of information will take to the program. We go to internet what will we get there? Because we don't know! Agriculture is not only writing we need information which will respond to de need and explain the doubts of the farmers. That is why, it become difficult to work in this program. There was an agricultural training in Vilanculos and I asked Sidai in order to send two journalists to attend such training. The reporters returned because they were not included in accommodation. Then talking about agriculture constitute a problem here,

even the Sidai's technical who are related to agriculture are not link to agriculture, they are linked to others things. There was a technical who used to help us but he was appointed as manager and left. That one knew agriculture's issue. He was the one who took us to all district where exist farm but those who remain it is difficult.

Sometimes we discuss here, that is not, it doesn't sound well, plough, no it does sound well and sometimes we go and meet the manager when she has time. So how often we will find a journalist willing to following. He can be motivate today but we he goes there and the manager is not available, he will give up and this week the program will not be aired, because only the manager help us, she take our notes and edit it, after that we return and we prepare because the agriculture program work like that: we go to internet we get information we dit and we aired it. Seldom, we discussed because of lack of knowledge, because only a person who knows can be able to discuss.

Q: you said earlier that you make the program with extension workers, how does it work?

RCRM: you know the problem of our extension workers is that, they wait to be asked by the presenter and the presenter is not trained in agriculture. The extension workers are waiting for a message or a call in order to respond the program. The program will not be interesting. We asked once in order to have extension workers here to share their knowledge which they learnt at school about agriculture. The response was they are few at district level and each must be here at 7h:30 min and must be on the field and they come back at 15h:30 min. they are scaled in a certain way that once a week one can come but even so it is normal within a no one come. That is why it is difficult. What Armando does is thinking in one theme because he heard or read somewhere and google it and write what he think but if we read and we do not understand we take to da agriculture manager to edit if she is not available we don't air it. That is why the program is not aggressive.

But for a district like Morrumbene where agriculture is a base of the majority, I think that the program must be aggressive. If it were possible small training in this area of agriculture because agriculture is difficult because all of us we don't know, it is different from others areas like education, health because these areas are part of our daily basis. Agriculture is different. The programmes which are being aired with a lot of problems are agriculture and justice, justice if the administrator does not help us with lawyer we will close the program.

The justice is worst because there are some terms which must be used within certain rules. Within this semester the program only was aired twice. A program which is aired twice a week, we launched the program on 15 January, it was the first program which was aired, after the program was been launched the lawyer came after one month and until today he had never come again. But we communicate to the administrator maybe she can help us because justice constitute a problem in the district. We have people who continue solving problem using their hands then we have to sensitize the community.

We feel when the elders talk on the radio when they call because they prefer to spend their airtime rather than coming here, they prefer to call speaking in local language, and for example we have a lot production and are dying because we could not apply fertilizers. With regard to this problem we had to call the administrator in order to solve. The farmers made the following question: we buy fertilizers which are very expensive but when we produce and we apply high price you don't buy it, why don't you reduce the price of fertilizers? There was a huge debate about it and at end we invited the responsible of agriculture in the district and administrator.

If we manage to get through all of this challenges, it will be good the program would be able to help the farmers. Because we understand that we have the fertilizers' company which produce it but the fertilizers still very expensive while we have the factory located at 2 km. they raise this question. We produce a lot but we don't have profit because the money which we use to invest in order to produce is almost equal of what we gain when we sell then it isn't possible that the district can do something to bypass all of this? Isn't possible to reduce the price of fertilizers? And the extension workers when they go to the farm instead of helping they want to be bribed.

At the beginning, the program was very good because it helped farmers to awaking what was going on in the district because the majority of elders they are aware of many things. I don't know what the role of extension workers is? if it is to help or demand money from farmers. The farmers say that it is good if they stop coming if they come only to demand money.

The administrator had a meeting and I don't know if they solved but what is sad to be said, it is our government but there is something which they don't want o assume but they know that it is happening, the program stopped to open line in order to communicate with farmers. Do you see that?

Q: Armando said that the program in bitonga is not being aired and only the Português one. What is happening?

RCRM: we air in Português because some reporters or translators are no longer here, they were students and they finished. The entire programs in its essence are produced in Português and they are translating into Bitonga and Xitswa. It is reporter responsibility to translate it into local language. That translation is made orally. It is amazing how our journalists do that because most of reporters do not read and write in bitonga and xitswa; they translate orally while they reading what was written in Portuguese while the program is being aired. Then it is difficult, I mean there is no program which I know in which reporter wrote in local language. Because the reporter who speak bitonga is no longer with us, others presenter for example they are supposed to present the program. That is the reason why the program in bitonga was not aired

It is necessary to understand that our farmers do not speak Portuguese so if the program is aired in Portuguese is only for us to know what is happening, because we do interviews in local language and we have to translate for administrator understand about the complaint raised. The program was set up to be aired in Xitswa and Bitonga. Portuguese is for repetition on of what was aired in other languages. Because we cannot interview farmers in Portuguese, the interview must be in local language. We aired in Portuguese when we do direct with extension workers and then is translated into bitonga and xitswa. The program in Portuguese is aired in afternoon is done in order to open line in order to get opinions and after that we translate into bitonga and xitswa.