CIRN Prato Community Informatics Conference 2013:
Refereed Paper

Commitment, Proactivity and Trust:

Ingredients for Successful Cooperation in Community Development Actions

Salomão David, Sara Vannini, Amalia G. Sabiescu, Lorenzo Cantoni

New Media in Education Laboratory, Università della Svizzera Italiana
6900 Lugano, Switzerland
{cumbulas; vanninis; sabiesca; cantonil}@usi.ch

Abstract: This paper outlines an analysis of an action research initiative undertaken within the research and development project RE-ACT (Social REpresentations of Community Multimedia Centres in Mozambique and ACTions for Improvement) on Community Multimedia Centres (CMCs) in Mozambique. The project sets out to study the perceptions about CMCs held by different social groups and consequently to assist local stakeholders in the design of small projects for improving the performance of CMCs. The paper focuses on the second part of the project, in which nine CMCs with a representative coverage of Mozambican regions were involved in the co-design of development actions for the provision of new services with inherent relevance for the communities. Actions were designed through the cooperation of the CMC directors and staff, the affiliated communities, and the RE-ACT team. The implementation was entirely managed by the CMC staff, with remote assistance from the RE-ACT team. The nine cases had different rates of success, ranging from successful ones to failure in achieving the objectives set. The paper focuses on one of the most successful cases, involving a CMC located in Quelimane, which provided ICT training addressing particularly underprivileged youth. Through the project, 79 youth were trained over one year in using ICTs and managing radio programs. The paper offers an analysis of this case and outlines the most important factors underpinning its successful implementation.

Keywords: co-design; Community Multimedia Centre (CMC); public access venue; community development; underprivileged youth; action research.

Introduction

Information and communication technologies (ICTs) are widely acknowledged as important resources for socio-economic development in developing contexts. Access to ICTs is thought to contribute to improved quality of life especially for rural or isolated communities in developing areas (Kivunike et al., 2008; Oye & Malaysia, 2012). To meet community development goals, joint ventures between governments, non-governmental organisations and business entrepreneurs have invested significant resources in creating and improving access to ICTs in developing areas, mainly through the implementation of public access venues (Sey & Fellows, 2009). The most common forms of public access venue are telecentres, community multimedia centres, cyber cafés, millennium villages, and libraries (Gomez, 2012). A telecentre stands for a physical space that provides public access to ICTs, notably the Internet for educational purposes, photocopies, fax, and other social services to prompt socio-economic development (Reilly & Gomez, 2001). The set-up of these venues was intended to contribute to transforming communities into spaces for information and communication, linking the local to the global through information flows. Yet, research on the actual outcomes of these initiatives indicates that access to technology alone does not meet developmental goals (Heeks, 2003; Unwin, 2009; Rega, 2010; David et al., 2013; Rega, Vannini, Fino, & Cantoni, 2013). For public access venues to rise up to their developmental potential, there is a need for provision of associated services, training, and programs by which

people in underserved areas may expand their abilities and choices. The design of these associated products and services needs also to take into account forms of communication cherished locally, and links with media already owned by the people. An example of a type of public access venue that was customized to link with people's private access means is the CMC, an aggregation of a community radio and a telecentre (Creech, 2006). In 2001 a cooperation development project between the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Swiss Agency for development and Cooperation (SDC) set out to implement 40 CMCs in 35 different countries (UNESCO, 2004). These centres combined telecentre facilities such as Internet access and fax and phone services (Reilly & Gomez, 2001) with radio in local languages managed mostly by locals (David et al., 2013).

This paper examines the factors underpinning the successful involvement of local stakeholders in the co-design of ICT products and services that can boost the benefits brought by CMCs for their affiliated communities. It reports on a research and development project that investigated the local perceptions around CMCs in Mozambique and oversaw the community-driven design of improvement actions for enhancing the range of services offered by CMCs to local communities. The project, titled RE-ACT (social REpresentations of community multimedia centres and ACTions for improvement), has been run by the Università della Svizzera italiana, Lugano (Switzerland), in collaboration with the Centre for African Studies and the Department of Mathematics and Informatics of the University Eduardo Mondlane, Maputo (Mozambique). The project had two broad phases. The research conducted in the first phase examined the perceptions, the awareness and the understanding that different local social groups have of CMCs: initiating agencies (UNESCO and the Ministry of Science and Technology of Mozambique), as actors that implemented CMCs, associations owning and managing the CMCs, local staff members, users, and non-users of the venues. In the second phase, nine CMCs with a representative coverage of Mozambican regions were involved in the co-design of development actions for the provision of new services with inherent relevance for the communities. These actions were designed in two phases through the cooperation of the CMCs' directors and staff, representatives of the affiliated communities, and the RE-ACT team. The implementation of the development actions was managed by CMCs' directors, staff members and their communities. Throughout the process, periodic reports had to be sent to the RE-ACT team, aimed at providing data to the RE-ACT researchers to better assist and advice.

This paper focuses on the second part of the project, concerned with the design and development of the "improvement actions". In particular, it reports on one of the most successful of the nine cases included in the project, involving the CMC in the city of Quelimane. The improvement action conceived for the Quelimane CMC was to provide ICTs training for the underprivileged youth living in two local orphanages, and thus contribute to enhancing their confidence, social recognition and opportunities on the job market. This case is analysed, looking at the most important factors underpinning its successful implementation.

Co-designing Improved Services for Mozambican CMCs

RE-ACT "improvement actions" were small-budget projects designed by the CMCs' staff and local communities with the support of the RE-ACT team. Their purpose was to improve the social and (possibly) financial sustainability of the CMCs. The initiative followed the principles of action research. Over the last few decades, action research has been growing as both a research culture (Schuler, 2009) and a family of methodologies counter-acting traditional notions of knowledge and power, to the extent of engaging communities in shaping the design of the research (Acker et al., 1991). Action-oriented research is usually associated with interpretative (Uttal, 2005) and critical theory inquiry paradigms (Guba & Lincoln, 2005), requiring flexible research designs and a concern with producing practical, actionable knowledge that can inform practice and positive social change (Creswell, 2007). While 'action research' has been labelled with diverse names, ranging from 'participatory action

research' to 'action-oriented research' (Argyris, 1996), the central tenet and driving factor underpinning this diversity is the concern with placing research in the service of the people (Reason and Bradbury, 2005). A common way to differentiate action research from participatory research is to stress either the action-taking or the participatory aspects in the research undertaken. Action research is mainly devoted to producing action outcomes and sustaining social change to the benefit of the stakeholders involved. The final aim is to come up with practical solutions to issues that concern people from different social groups or communities (Fine et al., 2000; Gaventa, 1993). At the same time, action research is equally a learning endeavour: it seeks to equip participants with skills on reflective thinking, decision-making, and action-taking (Adelman, 1993).

It is particularly this learning valence that motivated the adoption of an action research approach in the project RE-ACT. The goal was to support the design of CMC improved services while enabling the local stakeholders to take full agency over their implementation. At the same time, the aim was to create bridges that linked the CMC and the communities they served, and to lower barriers to adoption of ICT services provided by the CMCs. Action research in ICT projects has the capability to immerse two different social groups from different realities in a shared environment where social differentials are questioned and overcome. When it comes to adoption and appropriation of ICT, empowerment and contextualization of these initiatives decrease the chances that the minority or the least powerful group accepts novel technologies only due to their inability to criticise the artefact or end product (Wajcman, 2013). Users' involvement in the design process allows ownership and contextualization of the technological solution and decreases the risk of falling into design-reality gaps (Nhampossa, 2005; David, Sabiescu & Cantoni, 2013). In this project, this step was achieved by enabling the participation of all stakeholders from the design stage of the improvement action, and entrusting the local team with full power over implementation. The accent fell, thereof, on the collaborative design of the actions, towards opening local agency for the implementation phase. This flexible approach to action research design is not novel. There have been similar approaches in which action research was customized for the needs of the context and the project goals, complemented with other methodologies or boosting the levels of local participation either towards the design or the implementation stages of the project development (e.g., Ospina et al., 2004; Spinuzzi, 2005; Bowen, 2009;).

There is increasing evidence in the literature on the benefits of involving local stakeholders into design. The approach to co-design in ICTD is shaped by the concerns of practitioners, researchers and international development organisations with raising public awareness and spreading ICT knowledge and skills to promote sustainable community development (Freeman, 1984; Kang, 2010). Co-design in this context implies that a project draws on a shared vision, fosters social learning, and promotes mutual understanding among all key stakeholders, taking into account that all those involved in the design process may have different perspectives and expectations, which should be adequately considered (Fien et al. 2007). Co-design is thought to result in higher quality of system requirements, enhanced system quality, and a better fit between the system and all intervenient (Steen at al., 2011: 53-60).

The RE-ACT improvement actions were first conceived during a workshop held in Maputo at the University Eduardo Mondlane. The nine directors of the CMCs involved in the project, together with initiating agencies representatives, were invited to analyse the information gathered during the first phase of the RE-ACT project, and to co-design possible improvement actions to be implemented within their CMC. Then, improvement actions were discussed by CMCs directors and the RE-ACT team within each participating community. In this second moment, each improvement action was defined and planned over a time span of one year and a half. The improvement actions selected by each CMC (Table 1) show a foremost concern with education, followed by promotion of local economic welfare through revenue-making activities such as tourism.

Following the co-design stage, the implementation of the improvement actions was entrusted to local stakeholders, under the leadership of the CMC directors and staff. The RE-

ACT team played a less conspicuous role in the implementation process. The team was available for assistance, especially drawing on its technical expertise and its managerial experience. The local stakeholders kept the RE-ACT team informed of the progress of implementation actions through periodic reports.

Table 1. Improvement actions for the nine CMCs involved in the RE-ACT project

CMC	Improvement action	Beneficiaries	Type
Dondo	Creating a Cinema	Community	Entertainment
Sussudenga	Training in informatics	Students	Education
Quelimane	Train underprivileged children	Orphans	Education
Chitima	Internet for teachers and students	Students	Education
Cuamba	Basic maintenance training	Community	Maintenance
Chiure	Basic maintenance training	Community	Maintenance
Ilha de Moçambique	Tourism platform for the island	Community	Tourism
Morrumbene	Local web platform	Community	Tourism
Xinavane	Training in informatics	Students	Education

The analysis conducted during and after the implementation showed different rates of success in carrying out the actions for the nine CMCs. Some actions performed poorly, and failed to achieve the objectives set. Yet, others were carried out successfully. Among these, the one considered most successful was carried out by the CMC in the city of Quelimane, aiming to provide ICT training to youth, and in particular underprivileged youth. This case is reported and analysed in the following section.

Case in Focus: ICT Training for the Quelimane Underprivileged Youth

This section provides an in-depth view into one of the case studies in the RE-ACT project, involving the CMC in the city of Quelimane.

The Quelimane CMC

Quelimane is the fourth largest city of Mozambique, located in the Zambézia province. It has a population of approximately 224’808 inhabitants, 40% of which are between 0 and 14 years old (INE, 2012).

In the past two decades, several initiatives have been implemented for improving access to information and technology in Quelimane. One such initiative is the community radio *Nova Radio Paz*, founded by the Catholic Church in 1998. A community radio is a radio station that broadcasts in local languages (in this case in Portuguese and Chuabo), managed by local people and broadcasting to a limited area (usually not further than 100 km of ray). The radio is managed by the local Catholic cathedral, and covers the entire municipality of Quelimane. Unlike commercial ones, this radio station does not run for profit. Its main competitor is Radio Mozambique, the national radio broadcaster. In 2006, UNESCO, the Centre of Informatics of the University Eduardo Mondlane (CIUEM), and the Swiss Agency for Development and Cooperation (SDC), implemented an expansion project that consisted in adding to the existing *Nova Radio Paz* a telecentre overseen by the National Institute of Information and Communication Technologies (INTIC) (David et al., 2013). Thus, the CMC of Quelimane was born.

The Quelimane CMC is located on the 1st floor of the São Carlos Luanga primary school. Three classrooms are used as community radio, telecentre and library. This CMC offers basic computer training (MS Word, Excel, and Power Point) in the telecentre, and courses of radio journalism and interview techniques within the community radio. The computer training courses offered span over two months and are tended for two hours per day, Monday to

Friday. The CMC also provides access to the Internet, fax, photocopies, typing services, printouts, and radio announcements (Rega et al., 2011). The CMC has five computers, four of which are allocated for computer training and one to the community radio. The CMC management is entrusted to one Catholic nun, who is supported by four local volunteers. These volunteers are young people who graduated from high school and are waiting for placement in the local university.

Frequent users of the CMC are office workers, students, teachers and business entrepreneurs. The CMC is not the only institution providing radio and ICT services in the city. The public and private sectors offer similar services, yet prices are much higher. These institutions have made higher investments and, due to their financial capacity, they provide competitive salaries. This often attracts the trained staff from the CMC, who leaves the community centre to work for these private institutions. The telecentre part of the CMC has difficulties in finding ways to attract volunteers and staff. By contrast, the radio is successful in its attempt to attract radio staff, as its reputation is solid and wide-spread in the Centre and North of Mozambique. Volunteers working at the radio sometimes leave for better positions: during the past two years, the radio has attracted volunteers from other provinces, who in few years come to be hired by public sector enterprises like Radio Mozambique and the Television of Mozambique.

Technical support for the telecentre part of the CMC is provided by the *Centro de apoio à informação e comunicação comunitaria (CAICC)* (Rega et al., 2011). CAICC is a unit within the CIUEM that provides ideas for sharing information and resources between CMCs, it has a green line and postal line to either receive calls related to technical problems or fix damaged components of technological devices. As for the community radio part, support is provided by the *Forúm nacional das radios comunitárias (FORCOM)* an organisation that acts as a lobbyist unit to promote and defend the interests of the community radios (FORCOM community radio stations, n.d.).

Key beneficiaries: The Quelimane underprivileged youth

Like many others in the sub-Saharan region, the city of Quelimane faces social issues that range from having a very young population (INE, 2012), high fertility rates along with low child survival, AIDS epidemics (World Bank, 2007) and social exclusion phenomena. One of the groups most predisposed to social exclusion consists of orphans. With the support of the *Diocese* of Quelimane, the Institute of Social Security (INAS), and the Association Namuali, the city has been maintaining three orphanages: *Casa Esperança*, *Aldeia da Paz* and *Casa Familia*. Other orphanages like the *Sangariveira* were transformed into women's correction facilities, while the orphanage *Eduardo Mondlane* was sold and today hosts the *Universidade Pedagógica*. The lack of orphanages and the high number of local orphans forced the creation of seven houses that provide care to underprivileged children. There are also houses that do not permanently host children. These new houses created a difference in denomination, such that the people living in the orphanages are called *internals* and people living in the houses are called *externals*. Internal orphans are those who live in the orphanage and do not have a family, either because they have run away due to family abuses, or because they were abandoned. The external orphans are those who have a house of their own but no elder person or relatives to care for them. Table 2 presents the number of people living in each orphanage, by age and gender.

Table 2. Orphanages in Quelimane

Nr	Orphanage	Internal	External	Age	Gender
1	Casa Esperança	85	1000	7-17	Mixed
2	Aldeia da Paz	35	30	7-19	Female
3	Casa Familia	60	100	6-18	Male

The orphanages are dependent on welfare organizations, grants from the government, donors, and fund raising activities. The orphanage management has also adopted innovative ways to provide care and expand relations between in-house residents and the outside world with a project known as *ataca,* where anybody can be an educational tutor or a friend of a person leaving in the orphanage.

Attention to the socio-economic inclusion of underprivileged youth has been on the agenda of governmental and non-governmental bodies in Mozambique. The Mozambican government has introduced reforms on basic education, notably the introduction of interdisciplinary, bilingual curricula, learner-centeredness and new teaching pedagogies (Guro & Weber, 2010). The government is paying increasing attention to the impact of investment in education for development and poverty reduction by increasing earnings from employment and boosting employability of the young labour force (Ez et al., 2012). Yet, the relationship between public education and economic development is far from well-defined, and global tendencies such as reduction of public spending on education, and health programs can negatively affect schooling for traditionally marginalized communities (Carnoy, 2000). Despite the fact that these marginalized social groups are the labour force for tomorrow, they face high social discrimination. Social discrimination originates from how society perceives them. Prior studies provided evidence that 10 to 17 year old boys or girls feel discriminated when their social situation becomes a reason for public debate that does not result in protection of their rights, when questioned about their living conditions, and when the lack of a paternal or maternal authority becomes a topic for derogatory conversations (Corcoran, 2002; Cornish & Ghosh, 2007; Liepins, 2000; Sokoloff & Dupont, 2005). Within this pattern, the special case of those underprivileged and young orphans stigmatized as HIV carriers stands out (Robson et al., 2006). Children from HIV positive mothers are often left under the care of their grandmother, cousins or aunts, who later stop caring for them under the excuse that they do not have the means to support the children.

This stigma has corrosive effects on the Quelimane underprivileged youth, and generates an illness in the rest of the society, leading to social differentials and lack of respect and compassion towards the young underprivileged. For the underprivileged, stigmatization generates a viral load of hatred, a struggle that finds expression through minor vices taken from a tender age, known in many social context as “bad habits”: drinking, smoking and sexual misbehaviour. If not properly dealt with, these can escalate to self-inflicting, anti-social or deviating behaviours such as taking drugs, gambling, prostitution and theft. These bad habits and vices are tightly connected to the desire for social recognition and acceptance, neglect and abuse (Burnham, 1993; Jones, 1993; Sacramone, 2006).

Co-design of improved services for the Quelimane CMC

The aim of the improvement action designed by the Quelimane CMC was to boost socio-economic opportunities for the Quelimane orphans, through provision of training in ICTs and radio services. ICTs training sought to improve skills in computer usage (MS Word, Excel and Power Point, Internet and social networks), while the radio course aimed at training people in radio journalism and production of radio programs. The actions were addressed especially at the Quelimane orphans, for whom ICT training was intended as a tool for facilitating their social recognition and integration.

The co-design of the improvement actions was done based on the same formula as for the other CMCs involved in the project RE-ACT. The core concept for the actions took shape in two moments: During a workshop held in Maputo, that had as participants the CMCs coordinators; and through focus groups in each CMC, with the participation of CMC staff members and representatives of the community, including representatives from the direct beneficiaries of the actions. Two researchers in communication sciences specialized in computer science and humanities comprised the RE-ACT team, were also present in both moments. In the case of Quelimane, the CMC staff included the CMC director, the telecentre responsible, two radio volunteers and the secretary. The underprivileged community

beneficiating from the action was represented by three eldest boys and girls from *Casa Esperança* and *Aldeia da Paz*. The rest of the Quelimane community was represented by housewives, teachers, business entrepreneurs, and government employees, randomly selected among regular CMC's users by the members of the staff. To ensure that the underprivileged community participated actively, the RE-ACT team got to know their reality and immersed into their daily activities, understanding the constraints the orphans experienced when dealing with stigmatization.

To ensure that the workshop produced effective results, the RE-ACT team provided to participants an overview of ICTs and the CMC's capabilities to deliver information trough the use of technologies. Members of the Quelimane community understood the role that ICTs play in their activities, in particular the computer and mobile phones. From interaction, it emerged that the community members see these devices as essential elements in their everyday activities. The devices were used to alleviate stress by turning on music, keep updated on news through the radio, and communicate with relatives trough the use of social networks and communication services like Facebook, Whatsapp and Twitter.

The orphans mostly related to the use of radio and showed curiosity about using mobile phones and computers to talk with relatives using social networks like Facebook and Twitter. They also inquired about how the radio works on mobile devices and computers, as they were not familiar with these features. The knowledge about these technologies was everyday knowledge for most of the other participants. Members of the community and the CMC staff perceived that these technologies are part of general, background knowledge and should be considered an essential know-how component for youth seeking to expand their opportunities on the job market. Therefore, the decision was made that the most relevant service to be provided to these youth was ICT training.

It is indisputable that the CMC staff and the community representatives (except the orphans) had already entered the co-design process with an ideal perspective on what the improvement actions would be. The predefined idea of the improvement actions idealised by the CMC staff reverted around the provision of courses for ICT training (MS Word, Excel, Power Point). Yet, during the focus group, this initial idea was shaped and advanced with attention to the needs of youth, and especially underprivileged youth, in order to increase their chances of employability. In particular, the discussion focused on their needs for social recognition and improved social status. One practical result of this discussion was an expansion in the training content, with the addition of teaching content on the use of Internet and social networking, as well as two courses related to the radio, on radio journalism and production of radio programs. These courses were to have as participants both the orphans and the rest of the young people, this last group paying the course fees. Part of the technological infrastructure, course materials and the training expenses for the orphans were financed by RE-ACT.

The workshop discussions also tackled the issue of different learning capabilities, as people rarely learn in exactly the same way, but rather fashion learning around their pre-existing attitudes and abilities. One practical outcome of the discussion was the decision to provide a computer to each orphanage, for enabling the orphans to practice during and after attending the courses. However, at that moment resources were not sufficient to cover the cost of acquiring new computers, therefore the decision was left pending until financial resources would become available. Community members also probed the idea of allowing the underprivileged youth to express the knowledge acquired during training in a radio program to lower the possibility of learning to later forget. They also insisted that the CMC had to be a venue where knowledge is applied to benefit the whole community, including its less privileged members. All participants welcomed the ideas. To move further to their implementation, these had to be first accepted by the National Institute of Social Security (INAS), the entity responsible with ensuring that these activities do not interfere with the youth' ability to attend regular school, and that they are not dangerous for the mental, physical, social and moral welfare of underprivileged youth.

For the project implementation, the RE-ACT team had the responsibility to provide technical equipment selected by the CMC (recorders, computers, projectors, etc.) and material with advanced content about computer training. Although Quelimane has recently experienced significant increase in quality of life and income, the costs for computers, printers and other ICTs related material were much higher than in Maputo, the capital city of Mozambique. Therefore, the RE-ACT team, based in Maputo, was in charge with sending the technical material to the CMC. A collaboration with CAICC was fundamental in this phase, as the centre provided access to their postal channel to exchange documents and technical material with the CMCs.

Young people participating in the improvement actions were selected among boys or girls who had completed the 8th grade of formal education. The 8th grade in the Mozambican education systems corresponds to the first year of secondary education in European systems. An exception was done for the orphans, whose reading and writing skills could be equal with or higher than an 8th grade student's, even if they had not completed it. These skills were acknowledged with a school declaration. As shown in Table 3, it was decided that the total number of orphans participating in the improvement action was to be 33 for the entire duration of the project. 15 had to be girls and 18 boys, from *Aldeia da Paz* and *Casa Familia* respectively.

Table 3 Beneficiaries of the improvement action according to the initial plan.

Nr	Orphanage	Nr. Orphans	Age group	Gender
1	Aldeia da Paz	15	12-17	Girls
2	Casa Familia	18	13- 17	Boys

Implementation and results

The ICT training was planned to spread over 18 months, from May 2012 to December 2013. The implementation was handled autonomously by the CMC, while the RE-ACT team provided remote assistance. During this time, the CMC staff drafted trimestral progress reports, sent through electronic email to the RE-ACT team. The first report was about the financial situation of the project, while the second was related to the implementation of the project and its associated constraints.

The implementation of the action deviated in several ways from the initial plan, yet the challenges found were met by the local implementation team with on-the-spot solutions, so that the project came to surpass the objectives it had set.

Initially, the CMC had concerns about the capacity to train the required number of underprivileged people requested by the RE-ACT team. Due to that concern, the CMC consulted the community and the RE-ACT team, and consequently decided to involve in the first batch only the youth from the two orphanages. The first group of people trained by the CMC were 14 youth from both the orphanages (6 girls and 8 boys). Their courses were held from the months of June to October.

The second group of the course did not include girls as the responsible for the girls orphanage considered that it was not an acceptable behaviour and example for the younger girls in the orphanage that elder girls left the orphanage in the morning only to return at the end of the day. This was a major setback but a promise was made that during the summer holidays (November to January) girls would be allowed to attend the coursers again. Later on, the orphanage administration decided that the girls would not be attending the course, due to an event that occurred in one orphanage. One of the girls who were to participate in the improvement actions became pregnant, an event which entitled the orphanage administration to enforce restrictive measures upon the girls overseen by them. For the subsequent months, it was necessary to bring boys from external orphanages to "fill" the spaces left by the girls.

The content of the courses also evolved in relation to the ideas brought in by the trainees. The first people trained by the improvement actions in the CMC presented an idea of a novel

radio program to the CMC management and RE-ACT team. This radio program was related to communication of childhood matters and later evolved to a more informative program about youth trends, famous personalities, music, and exchange of information about youth visions and challenges of coping up with independent living as a young adult.

The program was aired by the community radio every day from 9:00 AM to 10:00 AM at the beginning. After its evolution, the program started to be aired twice a week. The program started its first stage during the month of November 2012. Its second phase started in December 2012 and stopped airing in February 2013. This program was welcomed by most young people from the Quelimane city, normally students of the 8th to10th grade. The radio program was evaluated as highly successful by its listeners, based on an assessment obtained through the phone interactions held during the radio program.

This radio program proved to be a venue for obtaining a better job for one of the underprivileged youth, the program's leading star, who was invited by Radio Mozambique of Quelimane to work in their radio station and obtained a fixed-term contract. This fact stimulated the rest of the group to work towards reaching the same or higher professional levels.

Overall, 79 students from both the orphans and the rest of the community were trained in the first year of the project, a much higher number of trainees than the initially planned one. Table 4 presents the distribution of people trained in ICTs and radio courses.

Table 4. Number of people trained in the Quelimane case

Item	Non-orphans		Orphans	
	Female	Male	Female	Male
ICT Training & Radio Course	8	13	6	20
Only Radio Course	6	10	0	16
Total	79			

Discussion and Conclusion

This paper described a successful case of collaboration among an international project team, the members of the staff of a CMC, and community beneficiaries, for the design and implementation of a small budget project to improve CMC services. The improvement action performed in the CMC of the city of Quelimane can be considered a success not by its alignment to its initial goals, but by the manner in which activities and goals were constantly revised by the team in order to cope with emerging challenges. The project succeeded in delivering training on computers and radio for youth in Quelimane, including a number of underprivileged youth. Yet, in many ways the training provided deviated from the initial plan. For instance, the girls from the orphanages could not attend the courses due to restrictive measures set by the orphanage administration. Yet, some significant and unexpected results were achieved, that in many ways exceeded the initial expected outcomes. Overall, the project trained more youth than initially planned. Also, one of the notable results was that computers and radio training provided a foundation for the creation of a successful radio program targeting the youth community of Quelimane.

The case of the Quelimane CMC proved to be the most successful "improvement action" of the ones included in the project RE-ACT. The underlying factors for the success of the co-designed action revert around five aspects:

1. Commitment of the local implementation team
2. Proactivity and local initiative
3. Alignment between stakeholders' competences and tasks in the project
4. High perceived self-efficacy of local stakeholders
5. Equalitarian relationship among stakeholders

First, the improvement action in this CMC was successful because the people managing the CMC were committed to the project, and held high the cause of improving the life of the underprivileged youth. This commitment was especially evident for the CMC managing nun that was in charge with overseeing the adequate implementation of the courses. The resource management was impeccable, and attention was paid to keeping the staff working on the project motivated with resources acquired from the community course fees on a pro rata basis.

Second, the local stakeholders – both the CMC staff and the communities' representatives involved – demonstrated proactivity in the implementation of the project, devising new approaches and steps in order to meet the challenges encountered. The project activities were constantly adapted to conditions, making the best of what was available or feasible. Actions not conceived in the co-design phase were also planned, or new means for realizing previous decisions were devised. For instance, part of the money raised by the CMC through the ICT courses were used to acquire and install a computer in the orphanages, to allow young people to practice their newly acquired skills. Also, a radio program produced by the same young people beneficiating from the improvement action, and targeting the same youth community of the city was implemented. These and other examples of local initiative reflect the demonstrated commitment of the local implementation team. Proactivity in the project realisation can be related to the fact that the local implementation team felt they were owning the project: it was as much *their* project as it was one set up through an international joint venture.

Third, the high level of proactivity was possible due to an adequate match between the stakeholders' expertise and assigned roles, tasks and responsibilities in the project. The RE-ACT team gave advice on the best technological deals and oversaw the design of the courses. The project implementation was entirely managed by the local CMC staff, with inputs in relevant points from the beneficiaries and the RE-ACT team. The inclusion of individuals from the community skilled in project planning and management, proved to be a line of support for the CMC management. This distributed expertise ensured an optimum investment of the resources. ICTD projects tend to be created with a business plan that oversees the generation of sufficient resources like information, exchange of ideas and partnership to ensure continuous access of ICTs at an affordable cost. This aspect was not given sufficient attention in many community-based initiatives (Roman and Colle, 2002, 2003; Harris, 1999; Harris et al., 2003) and the Mozambican CMCs are not an exception. In the case of the Quelimane CMC action, having a skilled implementation team was also instrumental to efficient and wise management of the resources.

The effectiveness of this distributed expertise and the high level of local initiative can be related to a fourth aspect, regarding the level of trust held by the local stakeholders in their own capacity to carry over the project tasks to completion in a satisfactory way. This self-trust is well captured by Albert Bandura's (1998) concept of 'perceived self-efficacy', referring to beliefs in one's capabilities to organize and execute the courses of action required to produce given levels of attainment" (Bandura, 1998: 52). Bandura also argues that people are more driven to action when they perceive that their action is likely to bring along the desired effects (Bandura, 1998: 52). In the case studied, given that the stakeholders covered action areas aligned to their expertise, they were equally confident they could carry out the tasks well and motivated to invest the needed effort to bring them to completion.

Fifth, some aspects can be raised with respect to the relationship between stakeholders, which was characterized by equalitarian inputs in decision-making and mutual trust. During the co-design phase, no member had the upper hand, rather inputs from all stakeholders were weighed and considered on an equalitarian basis. Local stakeholders demonstrated critical thinking in the way inputs from the RE-ACT team were discussed and negotiated. Remarkably, the local members of the staff would not act as to please the RE-ACT team members. For instance, while the RE-ACT team proposed initially a large number of trainees as a target, the CMC staff negotiated the number in terms of local human resources and infrastructural capacity. Also, the CMC management and the community representatives

understood the potentialities of international collaborations, and a trusting relationship was built during the entire process between the CMC and the RE-ACT team. This proved to be key for effective communication and joint work, and for putting on the table problems and concerns as they were. This high level of trust did not function to lower the agency of the local implementation team by assigning a higher workload for the RE-ACT team. Rather, in many instances the RE-ACT team acted as advisors for actions managed by the local team autonomously.

References

Adelman, C. (1993). "Kurt Lewin and the Origins of Action Research". Educational Action Research, 1: 1, 7 - 24.

Andela, V. B. (2006). Harnessing information and communication technologies to leverage scarce resources for cancer education, research and practice in developing countries. Health Research Policy and Systems, 4(1), 1.

Bandura A. (1998). Personal and collective efficacy in human adaptation and change. In Adair JG, Belanger D, Dion KL (Eds.), Advances in psychological science, Vol. 1: Personal, social and cultural aspects (p. 51–71). Hove, UK: Psychology Press.

Bowen, S. J. (2009). A critical artefact methodology: Using provocative conceptual designs to foster human-centred innovation. Sheffield Hallam University. Retrieved from http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.500465

Corcoran, M. (2002). Place attachment and community sentiment in marginalised neighbourhoods: a European case study. Canadian journal of urban research, 11(1), 47–68.

Cornish, F., & Ghosh, R. (2007). The necessary contradictions of "community-led" health promotion: a case study of HIV prevention in an Indian red light district. Social science & medicine, 64(2), 496–507.

Creech, H. (2006). Evaluation of UNESCO's Community Multimedia Centres. UNESCO. Retrieved from http://portal.unesco.org/pv_obj_cache/pv_obj_id_BE7A0D92CAAF9399898BB8BE86A10234676C0500/filename/CMC+Evaluation_Final.pdf

Creswell, J. W. (2007) Qualitative inquiry & research design. Choosing among five approaches. Thousand Oaks: Sage.

David, S., Rega, I., Vannini, S., & Cantoni, L. (2013). Co-designed improvement actions in Mozambican Community Multimedia Centres. In Proceedings: IFIP WG 9.4: Social Implications of Computers in Developing Countries, Ocho Ríos Jamaica, 19-22 May, 2013. Short Paper, pp. 1004-1017.

David, S., Sabiescu, A. G., & Cantoni, L. (2013). Co-design with Communities. A Reflection on the Literature. J. Steyn & A. G. Van der Vyver (Eds.). Proceedings of the 7th International Development Informatics Association (IDIA) Conference: Public and private access to ICTs in developing regions. Bangkok, Thailand, 1-3 Nov. 2013. 152-166.

FORCOM community radio stations. (n.d.). infoasaid.org. Retrieved October 16, 2013, from http://infoasaid.org/guide/mozambique/organisation/forcom-community-radio-stations

Gomez, R. (2012). Libraries, telecentres, cybercafes and public access to ICT: International comparisons. Information Science Reference. Retrieved from http://staff.washington.edu/rgomez/publications/2012%20full%20book,%20libraries,%20telecenters%20and%20cybercafes.pdf

Guba, E. G., and Lincoln, Y. S. (2005) Paradigmatic controversies, contradictions, and emerging confluences. In N. K. Denzin and Y. S. Lincoln (eds.) Handbook of Qualitative Research. 3rd ed. Thousand Oaks: Sage, 191-215.

Heeks, R. (2003). Most eGovernment-for-Development Projects Fail: How Can Risks be Reduced? (Working Paper No. 14). School of Environment and Development - The University of Manchester.

Kivunike, F. N., Ekenberg, L., Danielson, M., & Tusubira, F. F. (2008). Rural communities in developing countries: An explorative review of the contribution of ICT on quality of life. In IADIS international conference ICT, society and human beings. Retrieved from http://docs.mak.ac.ug/sites/default/files/200808R038.pdf

Liepins, R. (2000). New energies for an old idea: reworking approaches to community' in contemporary rural studies. Journal of rural studies, 16(1), 23–35.

Lucas, A. M., McManus, P., & Thomas, G. (1986). Investigating learning from informal sources: Listening to conversations and observing play in science museums. European Journal of Science Education, 8(4), 341–352.

Nhampossa, J. L. (2005). Re-thinking technology transfer as technology translation: A case study of health information systems in Mozambique(Doctoral dissertation, University of Oslo Norway).

Ospina, S., Dodge, J., Godsoe, B., Minieri, J., Reza, S., & Schall, E. (2004). From Consent to Mutual Inquiry Balancing Democracy and Authority in Action Research. Action Research, 2(1), 47–69.

Oye, D., & Malaysia, T. (2012). Inflation and Poverty in Nigeria: The Role of ICT in Poverty Reduction. Universal Journal of Management and Social Sciences, 2(7).

Rega I., (2010). What do local people think about telecentres? A key issue for sustainability. PhD dissertation, Faculty of Communication Sciences, Università della Svizzera italiana, Lugano, Switzerland.

Rega, I., Vannini, S., Fino, E., & Cantoni, L. (2013). Exploring the Meanings of Community Multimedia Centers in Mozambique: A Social Representations Perspective. Information Technology and International Development, 9(4).

Reilly, K., & Gomez, R. (2001). Comparing approaches: telecentre evaluation experiences in Asia and Latin America. The Electronic Journal of Information Systems in Developing Countries, 4.

Schuler, D. (2009). "Forward" to Hearn, G. N., Tacchi, J. A., Foth, M. and Foth, L., Action Research and New Media: Concepts, Methods and Cases. Hampton Press, Cresskill, NJ.

Sey, A., & Fellows, M. (2009). Literature Review on the Impact of Public Access to Information and Communication Technologies. TASCHA Working Paper, No.#6. Seattle: Technology & Social Change Group, University of Washington.. Retrieved from http://www.globalimpactstudy.org/wp-content/uploads/2010/12/TASCHA_Public-Access-Review_2009.pdf

Sokoloff, N. J., & Dupont, I. (2005). Domestic violence at the intersections of race, class, and gender challenges and contributions to understanding violence against marginalized women in diverse communities. Violence against women, 11(1), 38–64.

Spinuzzi, C. (2005). The methodology of participatory design. Technical Communication, 52(2), 163–174.

Unwin, T. (Ed.). (2009). ICT4D: Information and Communication Technology for Development (1st ed.). Cambridge, UK: Cambridge University Press.

Wajcman, J. (2013). Feminism confronts technology. Polity.