

THE PARTNERSHIP ROLES OF INFORMATION TECHNOLOGY IN EXPANDING
ACCESS TO SMALLHOLDER (COMMUNITY) INFORMATION:
A MODEL FOR LIRHANDA QUAKER COMMUNITY MEDIA CENTRE, KENYA

Jemymah Ingado Seru
Coordinator, Lirhandanda Community Media Centre
Shinyalu, Kakamega, Kenya

George Gundu Shibanda
Moi University, Eldoret, Kenya

ABSTRACT

The area of study suffers from major challenges facing developing world as far as communication and information access is concerned. Thirsty for knowledge and information for educational and decision making processes among the small holders is evident. There is lack of books and means of rapid communication at low cost making access to knowledge and information hard. However small holder communities in this area are becoming increasingly aware of the powerful role the new information and communication technologies can play or help in their struggle for education, democracy, economic and social development. These challenges can be met, among others, through provision of public access communication and information services while allaying the technical means of communication problems. The bottom line is that the empowerment of the small holder is feasible through services as; on-site and distance education, employment opportunities, training, entrepreneurship, online information access to libraries, archives and institutions. In addition specialised services can be offered to agriculture, health care, business dealings, legal matters and expert advises or consultancies. This paper therefore discusses the role of Information Technology in expanding access to knowledge and information in small holder communities.

INTRODUCTION

The term smallholder basically refers to people with families staying on a piece of land not measuring more than eleven acres. The land could either be owned or leased by them. They survive by engaging in small scale farming activities besides other off farm tasks including retail businesses, teaching, agricultural instructors, drivers, pastorhood, nursing, motor repair, masonry and building. Agriculture is the major employers. The dependent age group is up-to 25 years whose majority are school going youth. Others who finish secondary training school at 16-18 years of age are heavily involved in professional training institutions including teaching, agriculture, business, and technically allied trades. The age group 25-60 is the mainly head of the household and are occupied with planning and managing household tasks. They are actually the decision-makers. Those who combine farming with professional functions like teachers, agriculturist and technical trades have the motivation to continue learning within their adulthood lives, thus aspiring for higher qualifications, grades or simply remain educated although housebound. Literacy, all the households are committed Christians making the Bible the highest bought and read book people are eager to learn both formally and through continuing education. Their eagerness for more education has created thirst for knowledge and information and therefore accessing and sharing information relevant to their needs has become illusive. So

illusory that even their need to actively participate in the political democratisation of the nation is extremely curtailed for lack of political, legal information and civic education.

PROBLEM ANALYSIS

The people living and making their livelihood in this area have commonly come to know the word Internet. With a deep concept of Internet, they know to what extent their information accessibility can be realised through its connectivity. They vividly know that their struggle for education, democracy, and social-economic development via information access can be made easy through the role new information and communication technology can play. Indeed there is a dreamland since they only came to know about the ICT concept because of hearing and have refused to accept the phenomenon of the "Global Village" brought about by the new information and communication technology given the fact that the area suffers from digital divide.

It is therefore noticeable that people connected with a telephone line are very few indeed. The telephone connection seems to serve specific areas like schools, Christian mission centres, government stations and a few traders on the market centres. The same applies to electricity supply where cabling is evident but connection to individual households is not a reality. Either way, the cost element has made it difficult to meet such obligations which to many people, constitute the basis for an information infrastructure to facilitate information access.

Fortunately, institutions and other organisations operating within communities, like churches, schools and government agencies have the means to install and provide telephone and electricity to support their operations. Since their operations are tilted towards empowering the community as a catalyst for development, their linkages with telephone and power is seen to be a filter-down benefit to the community in terms of communication and information accessibility. Thus among the church - school - colleges and allied institution connected project is the operation of an information system that besides meeting the institutional obligations, does also remain as a means for the community information access.

What is noticeable is that the traditional ineffective ways of availing information to the community through government agencies, schools, churches and other organisations still persist. The general consensus is that their performance has been worsening and therefore have lost touch with the present realities in ICT end-user effectiveness and utilities to expand information accessibility. The community needs for continuing education legal information, professional and technical information cannot be met fully from the traditional extension based system.

SMALL HOLDER MEDIA FRAMEWORK / MODELS

Information access by small holder communities in Africa still remain an issue seeking solutions. One solution is public communication and information services through telecenters models. This may also take the form of

Multi-purpose Information and Communication Centres or Community Multimedia Centres. Telecenters are being established either as private or public programmes across Africa under special projects. A connection of PC to telephone completes a simple telecenter within a school, shop, libraries, clinics, community centre and church. The telecenter concept is widely adopted in the United States, Canada and Australia whose focus is on more advanced services such as

internet access and video conferencing rather than on basic telephone services. While in Africa, for instance, public facilities are recommended for basic but value added services that make contribution to the social and economic welfare of the community. In Africa telecenter establishment have received funding from UNESCO and IDRC and has over 20 such centres as special pilot projects set up to test different models, mechanisms of implementation and strategies for sustainability. The ones in South Africa are supported by Universal Service Agency (USA).

Telecenter are beginning to be widespread. Even though, they still remain as new concept in African situations. There is therefore shortage of knowledge on how to establish and sustain them to match the African environment. Only a few examples can be cited in the African region, namely: Nabweru Multi-Purpose Community Telecenter in Uganda and Gaselasa Telecenter in South Africa supported by South African Universal Service Agency (1998). Nabweru multi-purpose community telecenter commenced service in 1999. It was sponsored by International Development Research Centre (IDRC) with community presentation. It is currently run by the Uganda National Commission for Science and Technology (UNIST). Its overall objective is to develop, test and promote community-based information and the application of communication technology for the development of rural communities. Besides purpose built building for its operation, the telecenter has to operate with the following equipment; television set, video cassette records, five computers, with internet connection, printers, telephone line, fax machine, photocopier, uninterruptible power supplier and a generator The UNESCO African Community Media Centre direction would wish to see them involve community members in determining appropriate ICT use and such technologies be compatible with the environment and respond to the needs of the community. That the community practitioners integrate traditional media that exist in the communities with modern media to ensure an effective media mix in the dissemination of news and information.

UNESCO (1999) indicates that the present community centres initiative must incorporate access to ICT's into their operations. That the choice of such technologies for community centres is influenced by the infrastructure ICT considerations. What then is required is any technology which incorporates existing technologies for enabling or enhancing community participation in line with community information needs. Nakaseke telecenter in Uganda is one of the Multipurpose Community Telecenters sponsored by UNESCO, jointly with IDRC.

George Caspary (2002) identifies that Village Phone System as one of the famous low-cost ICT access. He also sees the idea of virtue Telephones or Village Voice Mail System as additional ICT access capability for rural communities. He categories this ICT access model as Electronic Mail System for individual villagers by having a combined community radio and Internet access with a leased telephone line connection to the Internet. An example of this is the Kothmale Community Radio in Sri Lanka where in the so called process of Radio browsing, programme presenters browse the web in the studio on behalf of listeners. The listeners provide requests through phone or post. Subsequently, the relevant community experts or professionals interpret the information for the listeners. In the process, what is called local contents of what is relevant is created and stored as Local Databases comprising of government programs for smallholders, cost and availability of farming inputs such as seeds and fertilisers, grain prices in different local markets,

pest management, plans for crops, directory of local institutions, e.g. hospitals, schools, doctors, lawyers, livestock programmes, water and business projects. The relevant example of this is "Infoshops" in Pondicherry, India.

TELECENTER

There are quite a number of telecenters. They can be grouped under; Independent Individual Agencies or enterprises, part of a franchise, or simply a project of a national Agency. Lirhanda community media centre is basically a telecenter model that is Multi-purpose Community Telecenter (MCT). It is a Quaker church sponsored project, just like the schools and colleges on the same sponsorship, but owned by the community under whom the church operates. The aim of Lirhanda community multi-purpose community telecenter is to stimulate and respond to the demand for information and communication services. The direction of this MCT is to remain an integral part of the community it is to serve and it has to grow with time and technology in its services in response to the demand of the community.

RELEVANCE

People want to appreciate the challenges posed by the new information and communication technology world wide. Since the new ICT capability has brought the world to a size of a village, small holder communities dream is to remain part and parcel of this globalisation. People therefore need the necessary equipment in telephones, faxes, computers, monitors, modems, internet services to strength their personal and professional needs and of course by extension, for community development. The community ownership of this (MCT) tends to portray a sense of self confidence that will result in the community development benefits on the basis that knowledge and information is power and for active participation in community based affairs.

People see that (MCT) as a relevant tool that will encourage and support communities to manage their own development wide access to relevant facilities, resources, training and services. Within the framework of "Multi-purpose, Lirhanda MCT is envisaged to provide a variety of services to different user groups with the community around. These services include those related to education and training, information, health, culture, economy, agriculture, environment, legal and other social issues.

It therefore aims to meet the following services:

- Expanding access to education
- Access to internet and e-mail
- Access to telephones and faxes
- Offer information services
- Offer development support services
- Reach to public infrastructure.

Lirhanda MCT motto is starting small and expanding with demand. As starting small, it wishes to fit into the big picture indicated in (i-v) above by offering the following services:
Information access via internet, electronic libraries

Electronic communication
Education (Distance education), information skills
Entertainment
Photocopying
Printing and typesetting
Binding
Telephone/fax services

In general the object of the MCT will be measured successful on the basis that people will have an access to distance education, adverts on employment opportunities, training, business, legal, health and agricultural information, expanded access to government services and public information.

At its majority, Lirhanda MCT hopes to build up a full telecenter service by having a number on phone lines, multi-media PCs with internet access, a high-volume black, white and colour printer, scanners, a digital camera, a video camera, television/monitors, overhead projectors, photocopiers, laminator, space for meetings, telediagnostic and video conferencing.

In its multi-purpose service provision, Lirhanda MCT is well gearing to provide access to distance education, personal information, employment opportunities to job seekers, smallholder entrepreneurs and business oriented people to communicate with clients at a distance and execute related arrangements. With Internet and websites, potential students and their respective lecturers will be able to register and interact online, access library and archive based material and even receive online instructions from remote institutions. Such students can also benefit from the provision of educational software packages on site. Besides, specialised services can be offered to agricultural extension/research agents, health care workers, public health information, information on specialist health problems, which is individual based and connecting professionals in academic discussion.

BASELINE FEATURES FOR LIRHANDA MEDIA CENTER

The audit for what is basically required for this kind of telecenter constitute:

Capitation for start-up

Small holder goodwill as customers and users

Quaker church good will as sponsor

Small holder goodwill as operators

A business plan

Purpose built buildings

Electricity and telephone connections

Hardware and software tools

Management/co-ordinator /steering committee to constitute governing body of the MCT.

The ownership of Lirhanda MCT is as noted earlier, the small holder community but under the Quaker Church Sponsored. The community obviously forms part of the Quaker membership. Yet not everybody within the radius of the MCT is a Quaker and therefore part of the community that operate the telecenter. Already the cost element in running this telecenter is enormous going beyond the individual contributions that would be required to finance it. This has called for self-sustenance approach to ensure the telecenter has a future. Therefore the centre looks forward to

generating income from its services as provided to the entire community and organisations around and beyond it. Its clientele is therefore being drawn from: Individuals (local community members), schools, farmers, youth, entrepreneurs, women groups, churches, NGOs, government departments, universities, colleges, political parties, clubs, hospitals, courts, teachers, health officers, researchers, agricultural agents. Ideally the telecenter service development is basically identified by matching the potential clientele with their respective service requirement which takes the form of the already profiled clientele. As indicated earlier on, the telecenter being in its initial stages will focus on a few priority areas first with a view of expanding its focuses with development.

PARTNERSHIPS AND LINKAGES

Lirhanda MCT aims to develop linkages with communities including universities, colleges, research institutions, government bodies, churches and NGOs within and beyond. Such linkages will benefit the centre in terms of accessing and sharing information and facilitate expanded access to services like, continuing education, medical resources, legal resource, farming and business resources. On line information services for a range of products as those mentioned above will be feasible. Moi University, with its constituent college of Science and Technology, Western, is within easy of reach. Given LAN and WAN network topology Moi University is already enjoying, connectivity either way to the telecenter and the university resources will be smooth.

Kenyatta university which has already established continuing education programmes through its virtual library will obviously provide link so much need by potential students ready to take on course of their choice. With the availability of internet service providers (ISP) in the nearest town, internet connectivity along side Web sites browsing to access information world wide is guaranteed. Joining the ICT access through public and government network infrastructure for public and official information will not be a problem at the Telecenter. By virtue of the fact that Lirhanda MCT clientele may have interest in scholarly and academic affairs, there is a good will to join KENET project which is being developed to serve academic institutions under the sponsorship of USAID.

Therefore, there are local institutions and organisations which are most likely interested in linking and collaborating with Lirhanda MCT at various levels of understanding which include: Telecommunications and Internet Service Providers, Libraries and museums, public and private universities, schools, church organisations, NGOs, public bodies, healthcare institutions and farming organisations.

LIRHANDA MCT SERVICES:

The potentially range of services provided by the telecenter are:

Telephone calls

E-mail and internet access

Work processing (formatting and typing, documentation)

Computer use

Education and training

Computer training
Graphic design (assist with presentation, adverts, etc)
Printing (promotional/education material and presentation)
Web page design (personal homepage, design, launch)
Professional writing
Scanning
Photocopying
Binding
Fax communication
Business secretarial services
Service directories (development of vocal directories)
Video or still camera hire
Video conferencing
Internets searches
Information services \endash on line/printed/local or overseas news/advertisements/ government information etc.

HARDWARE / SOFTWARE NEEDS

It is the wish of the MCT to minimise costs on computers, telephone equipment and other equipment. Due to the magnitude of hardware requirements, receiving donated equipment including second hand from organisations and vendors is welcome. Regardless of their market status, new or second hand, the equipment must meet certain criteria as recommended by UNESCO:

Compatibility with local/overseas technologies
Connectivity appropriateness
Training component
Supplier maintenance/service package

Given the type and scope of services the MCT need to provide, the allied equipment that goes with it include: The telephone system \endash modern connection to the PC, fax line, voice line thus adding up to 3 lines.

It is possible wise to start with a single line sharing all services, voice, fax and internet.

Consideration can be made for a small PBX to act as switchboard or call management unit for all billing purposes.

The computer system - the MCT would be at ease with at least five PCs with one being dedicated to administrative functions. Standard multimedia PCs are ideal for the purpose with a minimum of 6 gigabytes, hard drive, 64 megabytes of RAM, sound card and a Pentium processor. Thus the requirement is complete with; Pentium 733 MHZ CPU, 64 MB RAM, 10 GB hard drive, 52X CD-ROM, IMB PCI video card, 10/100 Base T Ethernet port/card, Sound Blaster - compatible full duplex sound card, 1.44 MB Diskette drive, 15" Monitor, Keyboard, Microphone, Speaker/headphones/mouse, UPS (Uninterrupted Power Supply) and surge protector, Network computer (NC) \endash which relies on a central service.

LOCAL AREA NETWORK (LAN) - this calls for a local in-house environment of linking two or more computers (PCs) that are being used together. A standard Co-axial Ethernet cable is idea. Alternatively a small 4-port hub is suitable. But with an expanded MCT, a 16-port hub is

ideal. Given the potential of wireless LAN (Based on IEEE802.11), this topology is recommended for its ease of expansion and connectivity.

Computer use Management System - used for the purpose accounting and billing for access to the internet and allied services. A management billing system is ideal for e-mail users. External computer hardware - they are not part of the basic PC system package. They are printers, modems, photocopier, binding machine, CD-writer, scanner, paper shredder, digital camera, laminator, television, VCR (Video recorders), video conferencing, zip drive. To cover most of the tasks and services indicated for the MCT, the following software will be of necessity; CD-ROM Database, voice recognition software, (Dragon Dictate/True speech), E-mail program, Web browser (Internet explorer, Netscape, opera), Networking (Windows NT, Win 2000, wingate), presentations (Microsoft PowerPoint), contacts and organisations (Microsoft outlook, lotus organiser), accounting (quickbooks, MYOB, Money Dance.com), database (Microsoft access, Microsoft works, MYSQL), spreadsheet (lotus 1-2-3, Microsoft excel, Microsoft works) desktop Publishing (Microsoft publisher, core/draw, aldis pagemaker), Antivirus Mcafee, Norton's, Dr. Solomon's F-Port), Word Processing packages (Microsoft word, Wordperfect, Microsoft works), Computer literacy training software (Mavis Typing Tutor, Pc Tutor), Basic English Literacy Program, Photo-editing (Adobe Photoshop), Video/Audio Conferencing (Netmeeting), Graphic Manipulation (Aldus Photostyler, Adobe Paintshop, Paintshop Pro, Gimp, Image Magiek), Kid 's Game, Web Page authority software (front page, Netscape Gold, Home site, Communicator, aceHtlPro).

LOCATION

Lirhanda MCT has a home in one of the Quaker church buildings. It would be expensive for the community operating that MCT to design and put up a new building. The building is well ventilated, ease of reach by the public and openly visible with telephone and electricity connection. The building is currently being used for other functions related to the church and community around. There is every opportunity that the MCT, with expansion, can have the building as a permanent home, courtesy of the sponsor's goodwill.

MANAGEMENT

Lirhanda MCT has to do with a certain level of management to ensure its smooth operations.

This is being reflected as:

Sponsor (constituting Quaker Church)

Community Management Committee (Governing Committee)

Organiser (person with the idea of Telecenter establishment)

Administrative (comprising co-ordinator /manager, other technical and support staff who are running the MCT on day today basis.

CHALLENGES

The MCT aspires starting modestly with basic services and builds on to them as demand grows. The reduced services is currently attributed to its current size and scope given the kind of facilities in hardware and software that is available. The community which owns the MCT is essentially poor by all standards and cannot afford to acquire the necessary facilities that is

required to steer it (telecenter) into providing fully fledged services. There is a high potential for the growth of the telecenter but with a hope that a donor will be found to give it a face lift. The fast changing ICT's provide the means to revolutionise and reengineer the MCT services but with time. Currently, the telecenter will forge with what can be defined as appropriate ICT for the functions that are feasible. ICT literacy is real among the end-users and service providers. There is great need to adequately train up-to four MCT staff to be able to handle day to day training of the users at all levels and run it efficiently.

Smallholder population in rural areas suffer greatly from digital divide. There is a greater gap between them and their urban folk. The solution to bridge this digital gap is through the establishment of community based telecenters. The concept is new but with donor goodwill, there can be hope far more telecenter satellites in rural Africa thus making rural areas part of the ICT based global village. Telecenters, through appropriate ICT, is perceived, will contribute to realising universal services objective (UNESCO) in rural and remote locations where many people live in African region.

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