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The Use of Information and Communication Technologies (ICTs) as a Tool to Bridge the Gender Digital Gap: *A Case on the Use of a Locally-Developed CD-ROM by Rutal Women in Uganda*

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1. INTRODUCTION

Information and Communication Technologies (ICTs) can be used as tools to provide access to information to the underprivileged people in rural areas. Given the characteristics of rural women and men, such as having little or no schooling, speaking only the local language, among others, they are among the last to reap any benefits from information and communication technologies. This calls for more creative and innovative ways to enable the use of ICTs in rural environments.

The IWTC CD-ROM, entitled 'Rural Women in Africa: Ideas for Earning Money', is a response to the need for and access to information. It offers rural women direct access to information they badly need to improve their productivity and socio-economic status.

The paper is a report of a small experimental study, carried out during a field visit to Nakaseke Telecentre[1]. It a gives a brief background of the status of the ICT sector in Uganda and in particular, ICTs for development. It describes an initiative that involved developing a CD-ROM for rural women so that they could access information on a particular subject area in which they were interested. The paper presents an assessment of responses from women using the CD-ROM in Nakaseke village (also site of a Telecentre) and analyzes the impact of this tool on women and men in rural areas as well as the capacity to improve their socio-economic status by accessing the right information. Lastly the paper discusses the lessons learned from this initiative and other ICT development initiatives in general.

2. ICT Sector in Uganda

Uganda, like many societies, has men as the dominant players in decision making although women shoulder most reproductive, productive and community management responsibilities, many of which are not remunerated or reflected in national statistics. The lower status of women, in comparison to men, is due to gender imbalances that arise from the unequal opportunities and access to and control over productive resources and benefits. Statistics show that although women in Uganda constitute 70 – 80 per cent of the agricultural labour force, only 7 per cent own land and only 30 per cent have access to and control over proceeds.

Gender imbalances are further reflected in the education sector, formal sector employment, and in government and local government structures. For example in the rural

[1] Nakaseke Telecentre is one of the three multi-purpose telecentres opened in Kampala under auspices of a consortium of donors. It is located about 74 km north of Kampala in rural Nakaseke.

labour force women represent 53% and men 63%, while in the urban labour force women represent 35% and men 63% (Poverty status report 1999).

In an effort to bridge the gender digital gap, International agencies like the International Development Research Centre (IDRC), International Institute of Communication Development (IICD), United Nations Development Programme (UNDP) and others have supported initiatives, whose main aim has been to:

- Discover the role ICTs can play in empowering rural women
- Encourage women to take advantage of the developments in ICTs
- Demonstrate the use of ICTs and how they can facilitate the development process
- Provide access to ICTs and ICT-based information

Since 1995, there has been significant growth in the telecommunications industry in Uganda and the services that this industry provides to its customers are due in large part to the privatization and liberalization of the sector that has occurred in the last decade.

In 1993, the Government of Uganda began the process of restructuring the telecommunications sector. The process commenced with the Telecommunications Sector Policy Statement of 1996 and later the Communications Act of 1997.

The telecommunication policy allowed for the fair participation of any interested private sector providers under the rules and regulations of a government statutory and regulatory body – the Uganda Communications Commission (UCC).

The Communications Act of 1997 provided the legal framework for the introduction of competition in the telecommunications sector with its main objectives to:

a) Improve penetration of telecommunication services throughout the country
b) Encourage domestic and international private investments in the telecommunications sector
c) Reduce to a minimum the involvement of Government in the telecommunication sector
d) Foster competition for the provision of telecommunication services,
e) Create the Uganda Communications Commission (UCC) to regulate telecommunication services

There are two national telecommunications providers, three cellular network operators and some ISPs. There are also several privately-owned radio and television stations countrywide.

The Government of Uganda recently drafted a National Information and Communication Technology Policy Framework to address how Uganda should promote the growth and potential of ICTs in the country (National ICT Policy 2001). The policy's main goal is to promote the development and effective utilization of ICTs such that quantifiable impact is achieved throughout the country within the next 10 years.

In order to ensure rural communications development, the reform process in the Telecommunications sector, provided for specific measures that will ensure growth in the communications infrastructure network and equitable distribution of communication services within the country. These measures include rollout service obligations in the National Operator licenses, introduction of effective competition within the sector and statutory provision for the establishment of a Rural Communications Development Fund (RCDF) by the regulatory body, Uganda Communications Commission, (Rural Communications Development Policy for Uganda 2001).

3. CD-ROM PROJECT

At the International Conference on Global Knowledge for Development in the Information Age, which, took place in Toronto, Canada in 1997, the President of Uganda, H.E. Yoweri Kaguta Museveni, delivered a moving address, with a vision that modern information and communication technologies would play a resounding role in empowering rural communities in Africa. He invited the international community to help Uganda in achieving the vision. A collaborative project was then conceived by the International Development Research Centre (IDRC) through its Acacia Initiative to explore the feasibility of community Telecentres for accelerating rural development[2]. Other development agencies and Partners like International Telecommunications Union (ITU), United Nations Educational, Scientific and Cultural Organization (UNESCO), World Bank also supported various ICT demonstration projects like the Nakaseke Multipurpose Community Telecentre project, WorldLinks project, and Schoolnet projects.

One of the major concerns that arose from the Telecentre projects was the fact that they were under-utilized especially by rural women, and yet they are the major drivers of the rural economy. In addition, during implementation of the Telecentre projects, a need to develop content materials relevant to women's needs was identified. Due to the limited reading ability of rural women, the absence of appropriate content materials, and the gender roles at home, among other reasons, women were not active at the Telecentres. In early 1999, the International Women's Tribune Centre (IWTC) was given the task to work with women in Uganda, particularly rural women based at the Telecentres, in the development of relevant materials that address real needs.

Can rural women in Africa benefit from new information and communication technologies? Is it possible to develop ICT-based resources that are relevant to the needs of women with limited education opportunities? Is it realistic to expect rural African women to speed along the so-called information superhighway? The project results from the assumption that the answer to these questions is YES.

3.1 Project Goals

During a needs assessment survey that was carried out by the International Women's Tribune Centre (IWTC) in February 1999, a small sample (21) of rural women living near Nakaseke Telecentre, identified the following as some of their needs: the need for more information about marketing food crops and other products, information that would assist them in their income-generating efforts, and prices for food and crafts in the Kampala-based markets, among others. Hence, an ICT tool with simple and easy to follow modules that went step by step into the basics of marketing, credit and sales management could fill much of the need for information on small businesses that these women expressed.

Therefore, the following emerged as the overall project goals:

- To develop a package of ICT-based learning materials about micro enterprise that responds to the self-identified needs of rural women in Africa
- To increase women's access to information utilizing new ICTs
- To motivate women to use telecentres when looking for information

[2] The main objectives the Acacia project were to:
demonstrate how ICTs can effectively contribute to enable communities to handle their development issues; and discover and demonstrate how the disadvantaged groups such as women and youth can use ICTs in solving local development issues.

- To increase collaboration and networking opportunities amongst women and NGOs in Africa
- To involve community groups and technical teams in Uganda in the development of the materials
- To develop a simple, highly visual, audio package of learning materials using local languages for use by rural women with low literacy skills in Uganda

3.2 Characteristics of the learning materials

The kind of people that this project focussed on had no formal education and spoke only their local language. This eventually influenced the characteristics of the learning materials to be developed. Therefore, the materials needed to be in the simplest form possible. Thus, the learning materials would:

- Use an interactive learning process
- Promote problem solving
- Be based on real life experiences in Uganda
- Introduce new ideas
- Use experience gained form other successful small-business learning materials

3.3 Contents of the CD-ROM

The CD-ROM entitled 'Rural Women in Africa: Ideas for Earning Money', consists of an introductory section and three content sections. The introductory section is a guide to using the computer and the CD-ROM. Section one of the content sections, entitled 'Starting with what we have', emphasizes the need to identify assets we have and upon which we can build. Section two is about making money from a product or service and section three is about expanding our business opportunities.

3.4 The Research

At the time of this research the CD-ROM had been in use for 7 months. After two field tests, which exposed the women to the CD-ROM and how it works, the programme was installed on at least one computer at Nakaseke and Buwama Telcentres[3]. At least one person at each Telecentre was trained to help the women access the CD-ROM when they came to the Telecentre. Staff[4] at the Telecentres were also encouraged to mobilize women within the catchment area to come and use the CD-ROM.

The idea for the research was to have in-depth interviews with a sample of women in order to find out how they had benefited from using the CD-ROM and how they had found out about it. The women were organized by staff working at the Telecentre. Some of the women volunteered (30%) and most belonged to the newly formed Telecentre women's help desk[5] (70%). The main characteristics of the target rural women were uneducated and therefore low literacy levels, enterprising spirit, entrepreneurial capability but do not have much access to information to improve on their knowledge.

Thirty-four women were interviewed in categories of farmers (80%), business/traders (10%), teachers (2%), nurse (3%), local leaders (3%), and students (2%). The age group ranged from 20 to 70 years of age. The interviews were conducted in luganda, the local language commonly spoken in that area.

[3] The programme in Buwama has since January ceased working due to lack of audio on the computers
[4] Telecentre Manager, Information Officer, Volunteers and Trainers
[5] Women using the Telacentre organised themselves into a help group with a help desk at the Telecentre

The interviews were conducted at Nakaseke Telecentre which is situated in Luwero district, about a one-and-half-hour drive from Kampala, the capital city. The population in the area of the Telecentre is about 31,004 of which a little over a half are women, 15,672 (1992 Census). Most of the women had attended primary school (65.2%), while 12 per cent had attended secondary school and 1.5 per cent had university education, (Walker 1999). The main economic activities are small-scale farming and animal husbandry. Women contribute 70% of family unpaid labour.

3.5 Response from the rural women on the CD-ROM

The main question asked was on how the women had benefited from using the CD-ROM. The responses were mixed: some responses indicated that the project was taken at face value; while others did not quite understand or focus on the CD-ROM. Many of the answers referred to the limitations of micro credit schemes such as women's lack of access, high interest rates of micro credit, short pay back periods, etc.

A few responses did indicate that the women can access information using ICTs and can turnaround their situations from the knowledge and information received. It was evident that not only did many of the women interviewed learn how to save money and some even decided to open up bank accounts, but also they learned how to manage their resources in better and more efficient ways. One woman, for example, preferred to sell one of her animals in order to get the money to buy what she needed rather than begging for money. In this regard, women learned to be more self-reliant. More importantly, women became multipliers and trainers of other women in ICT. Other benefits mentioned included improvement of reading skills, increase in productivity and yield and greater awareness and interest in use of ICTs and other communication tools such as mobile phones.

The overall assessment of the women's use of the CD-ROM seems to indicate that the women, once mobilized, would be willing to use the CD-ROM and appreciate its content. At the moment, the women do not frequently use the CD-ROM, unless they are mobilized to do so. The main limitation they have found in its use is the few computers available to them. The programme has been installed on one computer of the four and the same computer is used for training in computer applications. Training takes priority. The other limitation was on the resources required to further the ideas, they had picked up from the CD-ROM, for example, they could not afford the popcorn making machine identified as a good business venture. Another major obstacle was poor vision. Many of the older women had visual problems and this limited their use of the CD-ROM.

What they found interesting was the creativity and reality of the dialogues and the local language used. They found the content lacking in elaboration of certain ideas cited in the different parts of the CD-ROM. For example, some women noted that while the CD-ROM introduced the idea of bee-keeping, they could not learn how to start nor did they have the resources required to start.

The women requested the includion of other subject areas such as better farming methods, how to manage the family economy, nutrition for the family.

3.6 How the CD-ROM has empowered the women

- Rural Women can access information on entrepreneurship development through ICTs and are keen to learn new ideas and put them into practice
- It has empowered the rural women with knowledge and skills, as the women have constructed more chicken houses from the information gained

- Women have become more confident, have opened up and have become more sociable, willing to discuss own situations and together, come up with solutions to help reduce poverty. For example, the women have formed a women's desk at the Telecentre where they collectively go about their day to day activities.
- The women have been motivated to work now that they can find the information they need.

4.0 LESSONS AND EXPERIENCES

Over the last five years, there have been lessons learned from pilot ICT for development initiatives[6]. Some of the initiatives made a deliberate effort to involve the marginalized groups such as women and youth[7] and others, like those cited in footnote 3, have been general. There have been major lessons learned, not only from the CD-ROM project but also from other ICT initiatives. Below is a discussion on some of the lessons and experiences.

a) Access and use of the CD-ROM

On the use of the CD-ROM, some women do not use the CD-ROM very often because of lack of time especially during the planting and harvesting seasons. In addition, access to the CD-ROM is limited because the computers are mainly used for training in computer applications. When the Telecentre was set up, the women did not visit it very often due to the time constraints and the lack of appropriate content. However, with the coming of the CD-ROM project, the women have increased their visits and if mobilized they deliberately make time to go and use the CD-ROM. Some of the men initially did not support their women going to the Telecentre but with the coming of the CD-ROM project and the new ideas therein, the men are supportive of their women.

b) Process of development

During the development of the CD-ROM, site visits to the target communities was an effective consultative and participatory approach which served both as a tool of advocacy as well as a mechanism of building quick awareness and acceptability of ICTs. The women did appreciate this and right from the beginning felt they were part of the process and therefore owned it. Involvement of men in this process was minimal, especially for the fact that, for a change we were doing something for women as a marginalised group but also for women to get them interested in using ICTs to access that information they so badly wanted to have. Men were involved during the production of the CD-ROM in a studio to insert graphics and record sound etc. However, the final product has had indirect effects on the men, especially those who have their wives using it. The men have become more supportive and interested in using the programme themselves.

c) Awareness

The site visits were instrumental in creating awareness not only about ICTs but also about the women's own situations and through these visits the women were therefore able to identify and articulate their needs. It is at the end of the site visits that we were able to agree on the subject of entrepreneurial skills for rural women.

d) Evaluation

The consultative visits served as a tool for evaluating the effectiveness of the Telecentres. The women were able to state how they have benefited from utilizing the

[6] Multipurpose Telecentres, Schoolnet project, Kabale highland Initiative, WorldLinks project, Uganda Development Services Kamuli Centre.
[7] Acacia Telecentre Project and IWTC Women's CD-ROM project.

Telecentres. However, it was also evident that there was a gap in as far as resources that serve the needs of women. There was therefore an immediate need to develop materials that respond to the needs of women in concrete ways and facilitate this process with on-going training and support.

e) Partnership

The major partnership established is with the communities themselves. They supported the idea and have been very enthusiastic to adopt the technologies.

f) Consultations

Consultation at every stage in the development process is paramount. It gives the beneficiaries confidence to participate and contribute to their own cause. It also brings in the aspect of relevance and feedback for improvement.

g) Language

The materials were originally in English given the wide spectrum of experts. After completion they were translated into the local language. This personalized it further and the women are very happy to have an ICT application in their local language. The local language has made the adoption easier.

h) Real life experiences and examples

The CD-ROM is interactive, promotes problem solving and is based on real life experiences of women in Uganda. This has helped the women identify themselves with these women as their role models and it has helped motivate them. "If those women could make it, then I can make it too," was the response from one of the women.

The CD-ROM is not the only ICT tool that can be used for rural women but it offers rural women direct access to information they need to improve their productivity without relying on someone from outside to bring the information to them. It also provides a way of accessing information on their own time and at their own speed.

i) Technical hurdles

Some of the computers at the Telecentres are not configured to handle interactive CD-ROMs. This has brought delays in using the CD-ROM at the various centres. There is need to activate the various functions of the computers. This would appear as something easy to do because all it requires is a technician to do the right configuration of the computers. However, it is not that simple as permission from the implementing agency is required to get the technician. At the moment that is even harder because donor funding expired and getting a technician to install a sound card or look at the problem is not priority for the centres that are struggling to stay afloat.

5.0 CONCLUSION

The CD-ROM clearly demonstrates that this new tool is adaptable and capable of carrying multiple language tracks. It offers rural women direct access to information they need to improve their productivity without relying on someone from outside – such as an agricultural extension worker. They can work with the information on their own time and at their own speed. The user is able to open up the programme, move to different sections as needed, or linger over any part that she wants review more carefully. Prior to the CD-ROM, there were written materials available both in English and Luganda the local language. However, this assumed that the rural population could read either of the languages, but this is not the case. There has not been a similar interactive tool and produced in the local

language. Technologies were seen as tools for the literate only. The CD-ROM immediately was acepted and seemed a workable solution because it eliminated the question of illiteracy.

Promotion and development of ICTs in general and CD-ROM in particular, will play an increasing role in the development of the rural sector. The CD-ROM still has to face challenges of wide dissemination, translation into other languages, long distances to the community access points, among others. Coupled with these challenges, there is the need for more empowerment to serve as an intervention in productivity and reduction of poverty.

The potential of ICTs to leapfrog the development process and empower communities is enormous, particularly if he future is seen in terms of building meaningful partnerships, universal access, building a critical mass, provision of localized content and software development, providing a conducive environment for ICT applications for rural populations to enjoy the benefits of modern technologies, more creative and innovative ways to bridge the digital divide.

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