Exploring innovative approaches for using ICT for rural women's adult education in Ghana

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EXPLORING INNOVATIVE APPROACHES FOR USING ICT FOR RURAL WOMEN'S ADULT EDUCATION IN GHANA

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ABSTRACT

This paper examines opportunities in emerging technologies and their potentials for improving the lot of rural women in Ghana through adult education. Through a web-based (internet) and literature search, this paper reviewed the potentials of some of these innovative approaches for empowering rural women in Ghana. Though rural populations in Ghana generate 56% of the total national household income (GLSS 4, 2000), poor infrastructural development in their communities and limited access to resources affect their productivity and development. Meanwhile due to new technological developments, there have been innovative approaches for reaching the unreached with state of the art information resources. From the search, it became clear that Ghana already has an extensive telecommunications network that reaches every region in the country; and a considerable experience in rural adult education programs, which when effectively explored could help reduce the learning curve to a significant degree. In addition, there are currently available on the market several technologies that avoid many of the technical constraints, especially electrical energy that prevent the use of technologies for community education. Harnessing the potentials of these innovative technologies for rural adult education will help bridge the rural-urban and especially the gender divide.

KEYWORDS: Information Communication Technology, Rural Women, Adult Education, Radio, Computer

1.0 INTRODUCTION

There is a growing recognition that Information and Communication Technology (ICT) is a powerful tool that can make development effective on a large scale for disadvantaged people. As a result increasing number of development organizations in all parts of the world use ICT to promote development, poverty reduction, empowerment and participation (Walter Fust in Waldburger & Weiger, 2004). Similarly, at the World Summit on Information Society (WSIS), Adama Samassekou, former Minister of Education for Mali and President of the WSIS Preparatory Committee concluded that "ICT for Development Platform has made it clear to everybody that we need to start sharing knowledge and information at once if we want to bridge the many divides which separate rich from poor, urban from rural, men from women, majorities from minorities and young from old" (Waldburger and Weigel, 2004: 9). These observations and remarks emphasize the potentials of using ICT to improve the lot of

the marginalized in society. Consistent with the focus of this paper, at the UN WSIS[9] held in Geneva in 2003 ICT was defined as "the whole range of technologies designed to access, process and transmit information in regard to text, sound, data and pictures. ICT encompass the full range from traditional widely used devices such as radios, telephones or television to more sophisticated tools like computers or the Internet" (pg.20).

A key conclusion drawn at the meeting of Ghana National ICT Policy and Plan Development Committee and Women's Organizations was that "women could benefit greatly if they were empowered with ICT" (Ghana, 2001). The committee also acknowledged that information technology could be an effective tool for the political empowerment of women; education and dissemination of information and indigenous knowledge; and strengthening of women's participation in the political process.

In considering the potential link between rural development and economic growth and for that matter poverty alleviation, the Ghana Poverty Reduction Strategy (GPRS) acknowledges that poverty reduction in the rural environment is largely synonymous with growth. Under- and un-utilized human and physical resources abound in these rural areas. Thus, the long-term growth strategy is predicated on the concept of modernization, restructuring, and development of the rural environment as the catalyst for the transformation of the national economy. The prime importance of empowering individuals through the creation of access to information is recognized. Also recognized is that the economic potential, participation in decision-making and contribution to good governance is increasingly linked to the ability to access, control and manipulate information.

It is in this regard that this paper sought to explore the potentials of emerging information technologies for the empowerment of rural women in Ghana. Generally, the study sought to find out what new information technologies could be used to bridge the information gap for rural women in Ghana. Specific objectives were to assess the situation of rural Ghanaian women; find out how information is made accessible to them; observe how ICTs could be used to facilitate adult education programs among them; identify some innovative technological tools that could be used for this purpose; and discuss some policy implications that may emerge. These objectives were achieved through literature and web-based search.

2.0 RURAL WOMEN AND INFORMATION IN GHANA

The 1992 Constitution of the Republic of Ghana mandates the enhancement of the socio-economic situation of women and the improvement of life of people in the rural communities. It states in Article 36. (2) that:

[9] The World Summit on the Information Society (WSIS) is a UN summit in two phases, the first in Geneva in 2003, the second in Tunis in 2005. The International Telecommunication Union (ITU) has the lead for the WSIS. WSIS has stimulated a world wide debate and increased awareness about the transition to the information society. It helped to put ICT for development high on the international agenda of burning issues. http://www.itu.int/wsis

> ***The State shall afford equality of economic opportunity to all citizens; and, in particular, the State shall take all necessary steps so as to ensure the full integration of women into the mainstream of the economic development of Ghana.*** The State shall, in particular, take all necessary steps to establish a sound and healthy economy whose underlying principles shall include -
> (d) undertaking even and balanced development of all regions and every part of each region of Ghana, and, in particular, ***improving the conditions of life in the rural areas, and generally, redressing any imbalance in development between the rural and the urban areas*** http://www.idlo.int/texts/leg5515.pdf (Date Accessed (D.A) 01/12/2005:emphasis in original)

These constitutional provisions indicate a high recognition of the need to bridge regional gaps especially in women and development programming. The predominant role of women in the rural economy makes this constitutional mandate crucial. This national objective has been supported and reflected in several initiatives and policies to empower rural women in Ghana. For example, the "Ghana Vision 2020" places considerable emphasis on the role of rural women in the attainment of the vision. Despite these constitutional mandates and developmental initiatives, there has not been much improvement in the status of women in rural Ghana. As expressed by Esther Ofei-Aboagye (2000) though women are making tremendous contribution to economic and human development, their participation in most aspects of national decision-making is minimal and the lack of women's participation in political decision-making has negative consequences for society. She points out that:

- it deprives women of important rights as well as responsibilities as citizens;
- excludes their perspectives from policies and legislation;
- prevents their input into national budgets and resource allocation, and
- deprives society of women's skills, knowledge and their perspectives.

The Ghana Living Standards Survey (GLSS 4, 2000) indicates that 51% of the Ghanaian population is female; the rural environment form 60% of the country, women form 56% of the Ghanaian population that has been defined to live in rural areas (GPRS, 2002:13). Rural Ghana is characterized by poor road networks, minimal infrastructural development, poor health facilities and unemployment, leading to high levels of poverty, small scale production, high level of illiteracy, dense population, minor conflicts, and poor access to information due to inadequate and poor communication infrastructure. Meanwhile out of a total national household income of ¢9,218 billion, 44% represent income generated in urban areas and 56% represent income generated in rural areas. This indicates how much rural Ghana is contributing to national development. Meanwhile the situation of women in these areas is not any better. The following discussions give a picture of the literacy, economic and decision-making status of women in Ghana.

2.1 Literacy Levels

Studies show that the literacy rate for women, compared to that of men, is lower. In the "Ghana Vision 2020" document, the general adult literacy (i.e. people who are 15 years and above, and can read and write at least a sentence) rate of the country is estimated at 53%. This varies between women and men at 64% and 42% respectively. It implies that women form the majority of the adult illiterate population of about 64.7%. School participation rates for basic and second cycle levels are 77 % and 38% respectively. This discrepancy widens as one ascends the educational ladder. Prospects of change in the near future are not very bright given evidence of current recruitment into literacy classes. Dropout rates remain high at about 20% for boys and 30% for girls at Primary School and 15% for boys and 30% for girls at Junior Secondary School levels (Ghana 1995:6).

2.2 Economic Status

The dominance of women in the informal sector and in food crop farming, which are characterised by low economic returns, makes them vulnerable to poverty. Women form over 70% of food crop farmers, and 90% of those in internal agricultural distribution, marketing and processing. About 80% of Ghanaian women in the labour force are employed in small, semi-formal and informal undertakings (GLSS 4, 2000). Meanwhile, according to the United Nations Fund for Women's Development Report, women's work accounts for 70% of the world's food.

2.3 Participation in Decision – Making

Women are poorly represented at all levels of decision-making. In terms of decision-making within households, women are disadvantaged by the norms, which designate men as heads of households and therefore the principal decision-makers. In Parliament, men form 91% (191) with women forming a mere paltry of 9.5% (19) of the total. The situation is similar for women civil servants and administrators. Women constitute 32% of the entire civil service and 24% of those in local government with most of them being in the secretarial and clerical classes. Only 12% of the decision-influencing category – the administrative class – is female. At the district level, only 3 of the 110 Presiding Members are women, out of 110 district chief executives, only twelve are women (10.9%). In the 2002 District Assembly elections, out of a total of 4,583 candidates elected only 341(7.4%) were women, while 4,241(92.5%) were men. All the Metropolitan and Municipal Chief Executives are men. (Ofei-Aboagye, 2000; Mensah – Kutin, 2003). Women's representation in formal structures of decision-making therefore continues to be extremely low.

2.4 Access to Information

Information in Ghana is mainly accessed through the print and news media. These media depend highly on hydro – electric power to process and communicate informa-

tion. The Ghana Poverty Reduction Strategy document (2002) indicates that the proportion of rural communities with access to electricity for domestic, commercial and industrial uses increased from 15% to 20% between 1996- 2000. There are indications that the availability of electricity in rural communities does not necessarily translate into increased household use. The GLSS 4 (2000) indicates that ownership of ICT-related technology and electronic equipment is also very limited in rural areas. The GLSS 4 identified radio-cassette player as the most highly owned information gadget at 34%; followed by radio at 14%. Record player and video deck emerged as the least owned at 1.2% and 1.4% respectively. Only about 11% of the rural people owned a television, which is probably due to the absence of electricity in many rural areas.

The story is not very different from international assessments. UNESCO Report (2001) indicated that in Ghana out of a 1000 people, 21 are subscribers of telephone lines and cellular phones, 3 use personal computers, and 41 are internet users. A more current report for the year end 2003 by International Telecommunication Union (ITU) also presents similar trends on Ghana. It reports that 1.3% own main telephone lines, mobile phone subscribers form 3.6% whiles internet users were reported to be 0.9%. The above indication shows the limited access to tele-communication gadgets in both urban and rural Ghana. Since, it is men who generally own and control property in most Ghanaian cultures, women's access to and control over these information gadgets could be very limited. With such a situation and considering the socio-cultural status of women in Ghanaian society, access to information will be a far away dream for rural women.

3.0 The Challenge of Using ICT

Harnessing the potentials of ICT presents several challenges. Generally, it is established that ICTs provide new opportunities for those who are literate, have good education and adequate resources. Disadvantaged and marginalized groups have little chance to benefit automatically from ICT, which further increases social divides, widens the gap between rich and poor countries, regions, individuals and even between men and women. At the WSIS, it was acknowledged that for the poor the real issue is not whether ICT is desirable because the technology is already not part of their broader context.

The growing question of 'bread or computers', thus whether the poor need 'bread or computers' though based on a mistaken understanding of ICT for development is challenging and provides a useful point for a debate on how ICT can be effective tools for development and poverty reduction. This 'bread or computers' debate is misplaced because it fails to recognize the symbiotic relationship between ICT/ information and rural households' empowerment towards poverty reduction. ITU http://www.itu.int/wsis/ (DA: 20/10/04).

The issue is whether to accept that the poor should, in addition to the existing deprivation of income, food and health service, etc., be further deprived of new opportuni-

ties to improve their livelihood. Thus, the strategic choice is whether to accept the rapidly growing gap caused by a very asymmetric architecture of opportunities or whether to use ICT in an innovative manner to level the playing field in economic, social, cultural and political terms. It is obvious that the crucial role of ICT in bridging the digital gap, rural – urban divide and gender gap cannot be over looked. The next session of the paper therefore discusses how the potentials of ICT could be harnessed to facilitate adult education programs for rural women in Ghana.

4.0 ICT AND ADULT EDUCATION

Since 1949 to date, there has been International Conferences on Adult Education organized with the support of UNESCO and other developing agencies. The conference brings together policy makers, and international practitioners to deliberate on emerging issues in adult education. At the 1976 Conference adult education was defined as:

> ...the entire body of organized educational processes, whatever the content, level and method, whether formal or otherwise, whether they prolong or replace initial education in schools, colleges and universities as well as apprenticeship, whereby persons regarded as adult by the society to which they belong develop their abilities, enrich their knowledge, improve their technical or professional qualifications or turn them into a new direction and bring about changes in their attitudes of behaviour in two-fold perspective of full personal development and participation in balanced and independent social, economic and cultural development [ICAE 1976:2]

Adult education, therefore, can be explained, simply, as any educational or learning activity organized for or participated in by people considered adults. A review of various reports of the International Conferences on Adult Education shows that promoting mass public participation in governance, women's empowerment advocacy, education for poverty reduction among the marginalized in society and use of ICT for enhancing adult education have been high on the agenda. However, an evaluative study commissioned by ICAE [10] in 2003 showed that not much progress has been made to this end. This is attributable to several factors among which include the need for more innovative use of ICT in adult education especially among the marginalized in society.

[10] Established in 1973, the International Council for Adult Education (ICAE) is a global partnership of adult learners and adult educators and their organizations, and others who promote the use of adult learning as a tool for informed participation of people and sustainable development. In the emergence of knowledge-society the ICAE promotes lifelong learning as a necessary component for people to contribute creatively to their communities and live in independent and democratic societies. Adult and lifelong learning are deeply linked to social, economic and political justice; equality of gender relations; the universal right to learn; living in harmony with the environment; respect for human rights and recognition of cultural diversity, peace and the active involvement of women and men in decisions affecting their lives. http://www.icae.org.uy

This is emphasized in a paper on *New Technologies for Literacy and Adult Education: a Global Perspective* presented by Wagner and Kozima (2003) at the International Roundtable on ICT in Non-Formal and Adult Education: Supporting Out-of-School Youth and Adults[11]. They remark that, "we are now beginning to understand how educational improvement will increasingly depend on new tools that are technology –based." ***ICT is now too cheap to ignore;*** advanced ICT tools may be relatively more cost – effective for the poor than for the rich.

Individual participation involves the skills to use technology as a means to access, disseminate and create new information and knowledge products for the benefit of the individual and society. ICT investments will therefore require the development of language-appropriate and culturally relevant content software, information on health, nutrition, family planning, continuing education, employment, agricultural production, civic education, community service, welfare etc. Such approaches, they explain, will result in a high road spiral of continuous development and use of new knowledge to benefit the economy, society and its citizens. The next session of the paper is therefore devoted to a case study of some of these innovative ICT facilities/ approaches for policy information and formulation for subsequent projects in Ghana.

5.0 CASES OF INNOVATIVE APPROACHES

5.1 Rethinking the Community Radio Approach

From the Community Multimedia Centre (CMC) and Gender Program of UNESCO, it has been observed that Community Radio in particular can be a remarkably effective gateway for women in disadvantaged communities to approach the new information technologies. The participatory approach of Community Radio (collective ownership, listening groups, etc) provides a supportive framework for women as they tackle the challenges posed by effective use of ICTs. A participatory approach maximizes the literacy and language skills available within the group, needed even more for computer-use than for radio. UNESCO http://portal.unesco.org/ci/en/ev.php [DA: 03/03/05]

Such programs do not seem to be new in the history of rural radio broadcasting in Ghana. As remarked by Abbey-Mensah (2001), head of Rural Broadcasting Corporation in Ghana, Rural Broadcasting [RB] in Ghana began in October 1962 where

[11]The International Roundtable on "ICT in Non-Formal and Adult Education: Supporting Out-of-School Youth and Adults," co-organized by the OECD and the National Center on Adult Literacy (NCAL) at the University of Pennsylvania (PENN), was held in Philadelphia, USA, on 12-14 November 2003. In addition to international country representatives, international organizations and NGOs involved in technology and youth and adult education participated. This roundtable brought together policy makers, scholars, and senior educational administrators from around the world to share recent research, to discuss emerging policy issues, and to consider how educational and social systems can respond to the growing challenges of ICT in support of youth and adult learning. Co-Sponsors included: U.S. Department of Education/ Office of Vocational and Adult Education, Benton Foundation, World Bank, InfoDev, and IBM Corporation.

programs designed for both men and women to educate (to stress *Dignity in Labour*), inform and entertain rural people were mounted in local languages. Recognizing the roles rural women play in housekeeping, childcare, farming, preservation and selling of agricultural products, special 30-minute daily program was broadcast for them. Several logistic and administrative factors have affected the production of such programs. Where they are still produced, rural women have limited access. Recognizing the potentials of rural radio in enhancing the capacity of rural dwellers for agri-business; and the dynamism in rural community organizations, Abbey-Mensah recommends the re-vitalization of such initiatives.

An innovative facility that could help improve the community radio program is *Suitcase Radio,* a product of Wantok Enterprises. Both its Radio (and TV) systems were designed for use in areas where infrastructure such as roads and power grids are either non-existent or in very limited supply. Everything operates from 13.8 Volts (a fully charged car battery voltage). The batteries can also be charged using solar panels, wind generators, standard gasoline or diesel chargers. If AC power is available, the company supplies an AC to DC power supply that will convert 230 Volts to 13.8 Volts DC. The company has community radio stations in many African countries and in the Caribbean, Asia and to a lesser extent Eastern Europe. Most of their radio stations are in Niger (75 or 80 units) and Mali (45). Niger, one of the poorest countries in the world has 90% of their equipment running off Solar charged systems. The company also did their TV pilot project in Niger, which also ran on solar energy. A success story was that of Timbuktu, where the facility was used in battling hordes of locusts that were destroying their crops. The people broadcast daily crisis programs from the suitcase. The radio presenters also used the local tele-centre to obtain further information from the internet and as well, explain and discuss the contents with a local expert in the national languages. The suitcase radio is designed to be extremely simple to use and to withstand harsh conditions such as those of the Sahara desert and Ghana as well. http://portal.unesco.org/ci/en/ev.php [DA: 26/03/05]

Wind Up and Solar Powered Radios - A radio set that could be useful for rural Ghana is the Freeplay self-powered radio, which may be operated directly by spring-generated power, or by using its solar panel. The Freeplay Global Shortwave Radio, which weighs 5 lbs. 51 oz./ 2.5kg has no need for batteries or an external power source [electricity]. The Freeplay Radio plays all day in direct sunlight, and when low-light conditions prevails it automatically switch over to spring power (if the radio has been previously wound). For convenience, the Freeplay may also be powered using AC/DC 6 Volt wall adapters. Created in 1998, the Freeplay Foundation works with non-profit organizations to distribute radios to poor, isolated people, primarily in Africa. (http://www.northdoorway.com/comm/freeplay.htm [DA: 03/27/05]; http://www.leeselect.com/shopping/pricelist.asp?prid=590 [DA: 27/03/05])

It could therefore be emphasized that with the emergent innovations and strategies, Interactive Radio Instructions [IRI] and Radio Forums could be a good channel for promoting rural adult education in Ghana.

5.2 Talking Books - LeapFrog's Adult Education Offering

Another innovative approach that is worth considering for rural women in Ghana is the LeapFrog Electronic Book. LeapFrog Enterprises Inc. (NYSE: LF), a leading developer of innovative technology-based educational products, has partnered with the US Department of Health and Human Services (HHS) to create a unique in-depth, multi-sensory health education program, being utilized by thousands of Afghan women. The program heralds LeapFrog's entry into the adult education market and expands its growing global presence in education. The Afghan Family Health Book teaches basic family healthcare information using LeapFrog's cost-effective, portable, interactive paper-based platform for adults with a range of literacy levels.
A team of healthcare professionals, Women's Affairs and LeapFrog's content development team developed the content in the country's (Afghanistan) major languages -- Dari and Pashto. This multi-sensory device provides the user with an interactive, hands-on approach to learning healthy living practices for Afghan families and basic women's health information. LeapFrog's intuitive, proprietary technology brings health information to life through stories that convey basic health lessons for the readers. They will be able to use it to learn about personal health subjects including diet, childhood immunization, pregnancy, breastfeeding, sanitation and water boiling, treating injuries and burns, and disease prevention. The beneficiaries are Afghan women, 80 percent of whom are illiterate, in large part due to suppression by the Taliban. They learn to read using the device. The information conveyed in a story like format allows the user to interact with conversations that are portrayed in the book through pictures and audio. (Raine, 2004, graine@sfchronicle.com *[D.A. 12/01/05]*)

5.3 Mobile Phone Services -Village Phone (VP) - Bangladesh

The "Village Phone" concept was developed by combining Grameen Bank's experience with the village-based micro-enterprises; latest digital wireless technology; Public Call Offices (PCOs) and privately operated phone centers. The VP provides modern telecommunication services to poor people in Bangladesh with the objective of providing access to telephone services and use technology for poverty alleviation. A Grameen Bank member obtains ownership of the phone under the lease-financing program of the bank. He or she provides services to people in adjoining areas, covering both outgoing and incoming, collects call charges according to prescribed rates and ensure the proper maintenance of the telephone set. The operator's income is calculated from the difference between the airtime charges paid by customers and the billed amount paid by the VP operator along with a flat charge for each incoming call. On the average, a pay phone operator gets an income of Tk[12]. 2,500 to Tk. 5000 per month (USD 50 to 100).

Tk. is the symbol for taka, the Bangaladeshi currency. Tk 50 to equivalent to USD1.00.

On willingness to use VP services, a survey by the Grameen B revealed that 54% of its member phone users were willing to spend between Tk. 100 to Tk 300 (i.e., $2 to $6 USD) for a three-minute phone call involving a financial matter with a family member overseas. Also, 27% said they were willing to spend between Tk. 300 to Tk. 600 (i.e., $6 to $12.25 USD) for this kind of call. Given an average reported monthly income of Tk. 5,000 ($102 USD) for respondents' households, these figures represent significant proportions of monthly household income ranging from 2% to 12%. About 82% of the Grameen Bank member phone users were recorded as women (http://www.grameen-info.org/grameen/gtelecom [DA:15/10/04]).

The Village Phone innovative approach with its impact assessment shows that people in inaccessible locations are in dire need for telecommunication services. They are willing to invest their limited resources in it considering the time and energy cost of physically sending information from one village to the other. They weigh the gains against costs such as the time wasted in walking long distances, exposure to rainfall and sunlight, late delivery of information during emergency situations like sickness and childbirth; the risk involved in walking through thick forest; and the poor road net work leading to lack of transportation.

5.4 Manobi Market Information Service: Senegal

In Senegal, Manobi, a mobile service provider, connects farmers, anglers and exporters, in real time, with information about the availability of products at production sites, the price of products at market and when producers' goods arrive at the markets. Manobi inspectors gather and enter data on fish and agricultural markets on Personal Digital Assistant (PDAs) and send them via the cell phone network to a database. The information is then made available to producers and exporters by the Internet, or using text messages on mobile phones. (Holmes, 2004; Manobi, http://www.manobi.net/wsa2003/)

With the launching of General Packet Radio Service (GPRS), a 'wireless office' that allows a multimedia functioning of cellular phones, including browsing the Internet, Spacefon now Areeba, a leading mobile phone operator in Ghana, is capable of initiating a similar project in the country. At the launch, the Managing Director, Ahmad Farroukh (2004) added that it would also provide an end-to-end solution between a remote laptop or Personal Digital Assistant (PDA) and a secure LAN in an easy to use way. All these are potentials that could be harnessed for bridging the digital gap in Ghana.

5.5 Handhelds and Laptops Initiatives

The Massachusetts Institute of Technology Media Laboratory has just launched a new research initiative to develop a $100 laptop—a technology that could revolutionize how the world's children are educated. The $100 Laptop will be a Linux-based, full-color, full-screen laptop, which initially is achieved either by rear projecting the

image on a flat screen or by using electronic ink (developed at the MIT Media Lab). It will be rugged, use innovative power (including wind-up), be WiFi- and cell phone-enabled, and have USB ports galore. Its current specifications are: 500MHz, 1GB, 1 Megapixel. The cost of materials for each laptop is estimated to be approximately $90, which includes the display, as well as the processor and memory, and allows for $10 for contingency or profit. The plan is for the $100 Laptop to do almost everything. What it will not do is store a massive amount of data. With regard to issues of connectivity considering expensive telecommunications services in the developing world, it has been explained that when these machines pop out of the box, they will make a mesh network of their own, peer-to-peer. According to the report, this is something initially developed at MIT and the Media Laboratory. They are also exploring ways to connect them to the backbone of the Internet at very low cost.

Similarly, in a BBC report by Julian Siddle, [28/02/05], it is reported that EduVision is piloting a project in Kenya where Mbita Point primary school pupils are doing exercises in their school textbooks, which have been digitized. EduVision is looking at ways to use low cost computer systems to get up-to-date information to students who are currently stuck with ancient textbooks. The E-slates connect via a wireless connection to a base station in the school. This in turn is connected to a satellite radio receiver. All books in the public domain, about 15 million, could be put on the base stations as they are being manufactured. In this case, it is anticipated that every rural school in Africa would have access to the same libraries as the students in Oxford and Harvard. The main anticipated drawback is that because it is a one-way connection, getting feedback or specific requests from end users will be difficult. Though these projects target schoolchildren, they offer possibility for replication rural adults.

6.0 SOME INHIBITORS TO WOMEN'S ICT USE

Much as ICTs have the potentials for empowering rural women, there appears to be some constraints that need consideration. Nath (2001), Revathi Balakrishnan (2002), Hafkin and Taggart (2003) and Holmes (2004) identify a number of constraints and inhibitors to women's ability to harness the full potential of ICT. These include the following:

- Policy environment to support rural ICT program particularly those directed to rural women;
- Inadequate physical and service infrastructure to support connectivity and the capacity building for ICT based interventions in rural locations;
- Economic affordability of IT hardware and soft ware among the rural population;
- Relevance of language and appropriateness of content, particularly for rural women;
- Gender specific constraints to access, adopt and apply ICT based information systems.

Also, in a study by the Association of American University Women (2003), a number of factors were identified for enhancing women's '***fluency***' with information technology. It was observed that:

- information literacy needs to be redefined to include lifelong application of relevant concepts, skills, and problem-solving abilities;
- there is the need to change the public face of computing to make the public face of women in competing correspond to the reality rather than the stereotype; and
- there is the need to rethink educational software which often shows significant gender bias for women and girls to recognize themselves in the culture of computing; and to support efforts that give women and girls a boost into the pipeline by creating program that encourage them to see themselves capable of careers in technology.

In addition, Noeleen Heyzer, cited in Holmes (2004), describes the redress of digital divide issues for women as the interconnection of the "4 C's: Content, Connection, Capability and Control, and Connection or Access to ICTs via telecommunications infrastructure; a gateway issue for rural women. The relief is that most of these innovative approaches discussed above are responding to most of these constraints.

7.0 POLICY IMPLICATIONS AND CONCLUSION

The above discussions suggest that with the global trend towards e–governance, the Government of Ghana and development partners may want to signal their commitment by increasing the use of ICT. Also, several indicators point to the possibility of significantly expanding ICT use in information delivery to empower rural women some of which include the following:

- Ghana already has an extensive telecommunications network that reaches every region in the country. Government may need to explore ways of strengthening the existing network to achieve the goal of empowering rural women through information delivery through ICT.
- Ghana has considerable experience in rural adult education programs. This experience should reduce the learning curve to a significant degree. There is a need to build on these proven activities to achieve the goal of empowering rural women.
- There are currently available on the market several technologies that avoids many of the technical constraints, especially electricity that prevent the introduction of popular technologies such as computers. For example the *Wind Up and Solar Powered Radios*, the *Suitcase Radio*, the Leapfrog's talking book, the MIT $100 dollar laptop and the Eduvision's *eslate* which are anticipated to be produced and distributed in a cost-effective manner.

With these technological opportunities available elsewhere and in Ghana, there is the possibility for harnessing the potentials of these emerging innovative technologies to

improve the lot of rural women in Ghana. Though there could be several challenges and inhibiting factors in the process, with determination and commitment, much can be achieved.

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