Open and Distance Learning and Information and Communication Technologies-Implications on Formal and Non formal Education: Kenyan Case.

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Abstract

The Population; female (% of total) in Kenya was last reported at 50.05 in 2011, according to a World Bank report published in 2012. Despite this higher percentage, women in Kenya are not well represented in education and training compared to their male counter parts (Kenya National Bureau of Statistics: Kenya Facts and Figures 2012 student enrolment by type of institution and sex). The need to empower girls and women through education are vital to achieve the Bill of Rights (Constitution of Kenya, 2010). Use of Information and communication technologies (ICT) and Open and distance learning (ODL) are some of the initiatives that seek to gap the gender parity in education in Kenya. In establishing the implications of ICT and ODL on Girl and Women Education in Kenya, this paper seeks to: a) Examine the Current Policies that Supports the Use of ICTs in Formal Education in Kenya, b) Assess the objectives and strategies to facilitate widespread use of ICTs and how they affect girls and women Education in Kenya; c) assess the Implementation of policy objectives and strategies in support of ICTs and ODL for girls and women Education, d) Identify priority areas for implementation of ODL initiatives for women and Girls Education in Kenya; e) State lessons drawn from the ICT and ODL initiatives for girl and women Education ; f) propose strategies for addressing the challenges for implementation of ODL and ICT for girl and Women Education in Kenya. Literature provides very informative findings in support of ICT and ODL for Gender. A number of policies and initiatives are operating in Kenya to ensure ICT and ODL are fully maximized by both Genders. However, the said policies and initiatives have not fully achieved the objectives for which ICT and ODL ought to be implemented. There is need to factor in women and Girls in a curriculum development strategy concerning ICT and ODL.

1.0 Introduction:

Policy makers, planners, administrators and researchers hold highly polarized views on the impact of information and communications technologies (ICTs) and their role in promoting objectives such as poverty alleviation, universal education, reduction in mortality and health hazards, sustainable development and in bridging the digital as well as socio-economic divides in the world.

On the one hand, while rapid technological changes are fast creating what is now known as `information society,' on the other, there are an estimated 18% adults or 771 million globally, who are still illiterate. Of these, the majorities are women, and nearly all are from the poorest sections of the society.

In Kenya, the population ratio of women to men is higher, though this contrasts with literacy levels between men and women. Women seemingly are the majority in the informal sector as compared to men (KNBS 2012). In politics, men occupying political seats have higher numerical numbers hence they are the major decision makers in parliamentary matters (Kenya elections 2013).

There have been efforts towards bridging the social, political and economic gaps between the genders. One of the methods to minimize these gaps is by education through use of Information and communication technologies and Open and distance learning. It is keeping this background in mind, that the present paper was conceived to ascertain what, if any, has been the current ICTs in promoting women's and girls education, particularly women's literacy, what challenges face implementation of ICT and ODL in implementing education of women and girls education. Recognizing that women's illiteracy would further exacerbate the already serious problem of `digital divide,' it was felt that a review of literature would help in assessing what new perspectives had emerged during the last few years. It was also felt that field visits to on-going projects in varying settings would help in identifying and validating some core principles of good practice in the use of ICTs in literacy programmes for women.

Third World countries, with a special focus on Kenya. Thereafter, the paper analyses current status of ICT and Open and Distance learning as it advances girls and women

education in Kenya. The paper also considers the initiatives the Government of Kenya put in place, and how ICT and ODL is being implemented in Kenya. The paper further interrogates some of the challenges the initiatives are facing and provides solutions for the challenges.

2.0 Justification

ICT and ODL are taken to be means through which equity, access and quality of education could be attained. Gender disparities in terms of economic, social and political aspects could be through ICT and ODL.

According to the latest UNESCO estimates for 2006, there are 771 million illiterate adults globally, or 18% of the world's adult population. Almost all adults who have yet to acquire minimal literacy skills live in developing countries, in particular those sub-Saharan Africa and the Arab States, where the literacy rates are about 60%. Women account for 64% of the adults worldwide who cannot read and write with understanding.

In order to address the enormity of the problem, the United Nations launched the United Nations Literacy Decade (2003-2012) in 2003. The aim of the Decade is to bring literacy to all. The overall target for the Literacy Decade is the UNESCO Education for All (EFA) goal of increasing literacy rates by 50% by 2015. The Literacy Initiative for Empowerment (LIFE) is a global strategic framework and key operational mechanism for achieving the goals and purposes of the UN Literacy Decade. Because of the established relationship between illiteracy and poverty, the achievement of the Literacy Decade Goals is central to the realization of the Millennium Development Goals. The International Action Plan for implementing the Literacy Decade states that "literacy for all is at the heart of basic education for all and that creating literate environments and societies is essential for achieving goals of eradicating poverty, reducing child mortality, curbing population growth, achieving gender equality and ensuring sustainable development, peace and democracy" (UNESCO, 2002).

With rapid expansion of ICTs, while educational applications of technology would be made available to school-based programmes, there is a strong possibility that due to scarce resources, these would exclude the poorest and the marginalized groups. There is thus a danger that with growing importance of ICTs in knowledge-based societies, those

groups with little or no literacy will fall even further behind those who are literate. The literacy gap that already exists will therefore grow even wider. Undoubtedly, this would exacerbate the problem of digital divide.

If the United National Literacy Decade goals are to be achieved, efforts would have to focus on reaching those at the very bottom extreme of the literacy divide, and there needs to be consideration of how ICT can contribute to achieving those goals.

On the basis of the country studies that highlight best practices in the use of ICTs for literacy programmes, as well as other experiences around the world, particularly in school education, it is averred that ICTs have the potential to play role of enhancing learning, broadening access to literacy education and empowering learners especially women.

3.0 Status of Education Gender disparities

The primary to secondary school transition rate was equally low at 55% (MOE, 2010). The GOK budgetary allocation for the sector is insufficient and this does impact negatively on the provision of resources such as textbooks, PTRs and Retention Rates are also affected. Completion Rates stood at 76.8% (79.2% boys and 74.4% girls) in 2010, although these already show a decline from the previous year, 83.2% (88.3% and 78.2% for boys and girls respectively). MOE 2012

Transition rate from primary to secondary increased marginally from 59.6% (56.5% for male and 63.2% for female) in 2007 to 64.1 % (61.3% for male and 67.3% for female) in 2008, further increasing to 66.9% (64.1 % for male and 69.1% for female) in 2009 and to 72% in 2010.

	2008		2009		2010		2011	
	Boys	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**
Enrolment in Primary '000'	4,362.5	4,201.3	4,509.4	4,322.	4,751.9	4,629.3	4,977.7	4,880.2
Enrolment in Secondary '000'	720.5	615.4	787.9	684.7	885.5	767.8	948.7	819.0
Enrolment in Universities '000'	73.5	49.3	110.3	67.4	107.7	69.9	117.7	80.6

Enrolment in other institutions '000'	56.5	53.1	55.1	52.2	56.4	54.7	68.5	65.3

Student enrolment by type of institutions and sex (Kenya national Bureau of Statistics 2012).Universities include both public and private universities; Other institutions include: TTC, polytechnic and Technical institutes.

4.0 Current Policies that Supports the Use of ICTs in Formal Education in Kenya

The state of application of ICT and ODL to promote gender equity socially, economically and politically has gained momentum. Various initiatives have been put in place to ensure the objective of gender equity is attained. The policy initiatives that have put in place include; Kenya ICT policy 2006, Kenya Vision 2030, sessional papers no 1. 2005 and Millennium development goals.

4.1 Kenya ICT Policy 2006

To ensure the deployment of ICT for education, ICT policy 2006 aims to promote distance Education and virtual institutions in higher education and training. Equity in education will be achieved through integrated e-learning curriculum, development of digital content, establishment of infrastructure and development and sharing of elearning resources. Facilitate public-private partnerships to mobilizes resources in order to support elearning.

4.2 Kenya Vision 2030.

Women and Girls interests have been captured through economic, social and political pillars of Kenya vision 2030. Vision 2030 recognizes ICT as an enable for economic, social and political pillars for Kenya. ICT will play a critical role in ensuring that there is access, quality equity in Education. The Government of Kenya therefore will seek to establish a computer supply programme that will equip students with modern IT skills;

4.3 Sessional paper No 1. Of 2005

In the Sessional Paper No. 1 of 2005, the Ministry's policy clearly articulates intentions to integrate information and communication technology (ICT) into education. This is intended to ensure that education and training service provision and delivery utilizes modern ICT tools. It should be noted that there are two dimensions to ICT in education, i.e. teachers and learners learn about ICT and teachers and learners learn with ICT. Learning about ICT allows learners to contribute to the development of ICT technology

and also become ICT literate. On the other hand, learning with ICT is aimed at enabling learners to acquire knowledge and skills that they can use effectively. These two approaches have been assimilated into education in Kenya. The Ministry's policy is to integrate ICT in education and training in order to prepare learners and education managers of today for the 21st century education and knowledge economy.

4.4 Millennium Development Goals

The Millennium Development Declaration commits member countries to promote gender equality and the empowerment of women as effective ways to combat poverty, hunger and disease and to stimulate development that is truly sustainable. The national development framework puts the key pillars as investment in the agricultural sector and heavy reliance on the private sector within a liberalized market. Those sectors dominated by women and the poor are at the periphery of the economy and have meagre investment resources. Gross gender inequalities persist due to prevailing discriminatory practices, leading to inequality in opportunities, wage/employment, ownership of property, and access to education and training. Overall, women continue to have less access to social services and productive resources than men. Women remain vastly underrepresented in parliament and local authorities and account for 8.3% of the seats in the National Assembly. In the recent past, the Government has appointed women to key positions, but this is still below expectations. There are also large wage gaps and only a small proportion can be explained by gender differences in education, work experience or job characteristics.

5.0 Strategies/initiatives to facilitate widespread use of ICTs and how they affect girls and women Education in Kenya.

A recent study in Kenya also indicate that women are highly optimistic, embracing ICT as a practical mechanism for achieving entry into the labour market (Amadi 2007). However, they perceive significant structural barriers, such as public policies that fail to facilitate the development of the ICT sector, gender discrimination by employers, and training that provides them with insufficient technical skills to enable them to effectively perform in the workplace. These findings are largely confirmed by similar studies conducted in other countries (AAUW 2000)

Creating an empowering environment for women to venture into ICT careers as professionals therefore requires that families deconstruct gender stereotypes and roles in society. Engendering the policy environment in important sectors like education and labour, and in workplaces and general socialization, is one of the strategies of shifting people's thinking and reducing gender discrimination in the ICT sector, thereby making it more attractive to women who contemplate entering the sector as professionals.(Abagi et al 2008). To ensure women and Girls attain universal access to Education, the following initiatives have been put in place:

5.1 Project Africa

Project Africa's Adult Literacy program for rural women and looks in particular at the intercultural communication between women in Kenya and Sweden at the Women's Academy with the aim to empower rural women and girls with literacy skills with the use of both traditional and new media, through education, information, and enterprise development. The project is directed towards rural women in Kenya with synergies in other parts of Africa. Hallberg, D. and Wafula, L. (2010), in their presentation on empowering women in Kenya with literacy skills through web 2.0 acknowledges that education is experiencing a closer sense of interconnectedness amongst women than it used to be in traditional classrooms. In the presentations at the conference on ICT, development and poverty reduction, the conference concluded that ICT can be a reminder of the distance and separation from the rest of the world. Women farmers have benefited from communications from other parts about business.

5.2 Bridge Development

BRIDGE was set up in 1992 as a specialised gender and development research and information service within the Institute of Development Studies (IDS), UK. BRIDGE supports gender mainstreaming efforts of policy-makers and practitioners by bridging the gaps between theory, policy and practice with accessible and diverse gender information. Debates around the relationship between gender and technology provide a starting point for a discussion on gender and ICTs.

5.3 Kenya Education Network (KENET).

To promote equity and access to Education through ICT, KENET, a National Research and Education Network was formed to promote the use of ICT in Teaching, Learning and Research in Higher Education Institutions in Kenya. KENET aims to interconnect all the Universities, Tertiary and Research Institutions in Kenya by setting up a cost effective and sustainable private network with high speed access to the global Internet. KENET also facilitates electronic communication among students and faculties in member institutions, share learning and teaching resources by collaboration in Research and Development of Educational content.

High end network equipment for KENET.

KENET has become the first African NREN to implement eduroam by setting up eduroam services in ten universities within the KENET community. This means that

students can now use their university credentials to access wireless Internet services across these universities.

5.4 Pasha Centers (Digital Villages)

Women are significant actors in the socio-economic development of any nation (Dlodlo, 2009). To this end, ways of enhancing female access to ICT in rural areas include: women sharing ICT experiences, facilitating ICT access for women, creating an enabling environment for ICT in education, and increasing ICT careers for women.(Dlodlo, 2009). The same source also stresses the importance of general collaboration on ICT activities to pursue common ICT objectives. In 2010, the government rolled out an initiative that will diffuse ICT know-how to the rural and marginalized areas to address regional disparities. Entrepreneurs, who run Digital Villages, are awarded loans in a competitive process, which they repay over a period of time. Pasha Centre's as the hubs are called, provide a host of services to the public via computers connected to the internet, or by using and marketing other ICT-enabled applications.

Digital villages are e-centers that provide a suite of services to the public via computers connected to the internet, digital cameras, printers, fax machines and other communication infrastructure. These services include, but are not limited to e-mail, internet access, agency banking, e-banking, for example, money transfer services such as Posta Pay, eGovernment, for example, police abstract forms, tax returns, and driving license applications, ebusiness, for example, franchised postal and courier services, e-learning, e-health, e-markets, for example, agricultural commodity pricing and exchange and e-monitoring, for instance, real-time local level monitoring of development funds and projects.

An example of a pasha centre in Kenya.

5.5 Wezesha Initiative

The objective of this initiative is to provide a financial incentive towards purchasing a laptop for registered university students. The laptop initiative is funded by the World Bank and implemented by the Kenya ICT Board under the Kenya Transparency and Communications Infrastructure Project (TCIP), as part of a component to implement the Computers for the Communities Initiative. This laptop initiative is known as 'Wezesha'; a Swahili word that means 'to enable'.

5.6 Kenya Institute of curriculum development:

It is a government statutory body mandated to develop curriculum and curriculum support materials. Some of the latest initiative by the institute to increase access to learning through open and Distance learning include; Development of digital content, use of digital educational channels (radio and TV), Introducing Elimika platform to orient primary school teachers.

5.7 Other Initiatives:

Other initiatives include Computer for schools for provision of computers and training; Kenya ICT Trust Fund to provide ICT equipment for schools; Mukuru ICT Centre for ICT skill development for under-privileged youth opened as part of the Mukuru Promotion Centre in Nairobi run by the Sisters of Mercy; NEPAD e-Schools Initiative:

4.0 Challenges:

Several obstacles have derailed the full implementation of ICT and ODL to promote teaching and learning. Lack of clear policy, strategy, uncoordinated players, insufficient integration of ICT in Education and limited digital content are to blame for poor adoption of ICT and ODL in education..

- There is no ICT curriculum that exists at school level to rollout the use of ICT as a teaching and learning tool. An ICT curriculum has been introduced at teacher training level though with inadequate investment in ICT in teacher training colleges.

- Despite the mention of Open and Distance Learning in Sessional Paper No. 1 of 2005, the government lacks a policy on ODL. This is in spite of the fact that global trends in ODL have shown marked adoption of innovative technologies in offering education.

- Limited use of ODL approaches in primary and secondary schools in Kenya even in areas where physical, socio-economic and time factors hinder the delivery and access of education especially among pastoral communities.

- Some parts of the country are not covered by mainstream electronic media thereby raising issues of equity and cost in provision of education through ODL.

- Lack of awareness among education recipients and providers about ODL and its viability in delivering quality education.

- Limited number of skilled manpower in ODL approaches amongst the providers.

- Inadequate infrastructure and related support for ODL in educational institutions.

No institutions of higher learning wholly dedicated to the use of ODL mode of delivery in the country.

- Unfavourable attitude and prejudice amongst learners of ODL.

- ODL is not used to deliver learning and teaching in primary and secondary schools.

- Some communities live far away from educational institutions.

- Parts of the country have poor transport systems.

- Certain individuals may have family and workplace commitments.

- Physical disability may hinder access to education in formal schools.

- Overcrowded classrooms.

Difficulties in leaving workplaces during official working hours.

- Migration, mobile working or nomadic lifestyles may hinder access to quality education.

- Offering education through ODL in certain professional disciplines is still a major problem.

5.0 Recommendations

- Develop a policy and strategic framework for effective integration of ICT in the teaching and learning environment.

- Strengthen the institutional framework to allow efficient integration of ICT across the entire education sector (e-management, teaching and learning).

- Adopt ICT systems and tools for effective management and governance within the whole educational system (Ministry, county offices, schools/institutions) and the transition to digital instead of paper business processing.

- Scale up ICT capacity building and access through the provision of ICT infrastructure to Ministry staff and educational institutions.

- Provide technical back-up support to all ICT using government education institutions (Desktop Computers, Servers, and Network Devices), Software (upgrades, updates and License renewal) and connectivity (appropriate/safe use, security).

- Provide connectivity to facilitate communication amongst all agencies in the Ministry (Headquarters, agencies, provinces, county education offices and schools)

- Establish and operationalize a National Centre for ICT in Education (ICTEC) where modern ICT tools can be tested, demonstrated and recommended for use in teaching and learning in Kenya's education and training institutions.

- Enhance public-private sector partnerships in resource mobilisation for ICT integration in education.

- Integrate monitoring and evaluation in all programme activities for proper utilization of ICT in education investments.

- The Ministry should continue to develop ICT in education and training. This will be geared towards increasing efficiency and effectiveness in teaching and learning

and the e-management of the national education system. The proposed Ten-Year Master

- Provide adequate funding for progressive digitization of curriculum content.

On policy the following recommendations were made:

- Fast track the processes of the establishment of a National/Public Open University with satellite centers in all counties as recommended by *Public Universities Inspection Board 2006 Report.*

- Prepare a regulatory and legal framework for all other institutions that envisage establishing open universities/institutions in Kenya as recommended by the Kamunge Report (2) of 2008.

- Introduce distance and open learning approaches including home learning at all levels of education in Kenya

On quality issues the following are recommended: Teachers and education managers at all levels of education should be trained to:

- Acquire skills to enable them develop distance and e-learning study materials.

- Develop capacity to train ODL providers (peers) in developing distance and e-learning study materials.

- Tutor distance learners in order to enhance equity, access, equality and quality.

- Offer learner support services to distance and e-learners in the country.

- Integrate ODL methodology in teacher education and training programmes at university and middle level colleges.

- Initiate development of ODL approaches that would meet the education needs of e-learners, online learners and distance learning students at all levels of education and with main focus on ASAL areas, pastoral communities, marginalized groups, special needs education and non-formal education.

- Retrain teachers and a core critical staff that will manage the ODL and e-learning programmes as the centre and possibly county ODL coordinators.

- Collaborate and strengthen the network of public libraries through Kenya National Library Service to support ODL, ACE in order to promote the culture of reading.

- Evaluate the outcomes of the actions to determine efficacy and effectiveness of ODL and e-Learning programmes.

- Integrate ODL methodology in teacher education programmes.

- All institutions of higher learning should roll out ODL programmes.

On issues of equity, the following is recommended:
- ODL be used as a vehicle for promoting the culture of lifelong learning by establishing continuing education programmes in areas of Kenya where such programmes have not been initiated especially the ASAL areas.

- The Government undertakes concrete measures including sustainable funds mobilization and allocation for the launching of the educational broadcasting services with outreach to all areas of the country.

- Collaborate with the Kenya National Library Service to strengthen the network of public Library services across the country to support ODL, ACE and promote a reading culture.

Concerning access challenges,
- ODL be alternative modes of delivery of wide range of courses in all public/private universities, middle level colleges, primary schools and secondary schools.

6.0 Conclusion

Kenya adopts a far more people oriented education and development policies and strategies, it is likely not to be able to motivate and attract the majority of women to access and appropriate ICT for their own development and that of their communities. Governments, policy makers, the civil society and the private sector and other stakeholders in our countries need to be on board and be empowered to take gender into consideration when developing legal and/or policy frameworks regarding ICTs.

Therefore, women's equality needs to be integrated as a cornerstone of any ICT strategy.

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