

## Achieving the Millennium Development Goals in Africa: Harnessing E-Learning Potentials

Joseph Wilson

Department of Mass Communication, University of Maiduguri, PMB 1069, Maiduguri- Borno State , Nigeria  
Email:joeweee2003@gmail.com

Nuhu D Gapsiso

Department of Mass Communication, University of Maiduguri, PMB 1069, Maiduguri- Borno State , Nigeria  
Email:ndgapsiso@yahoo.com

### Abstract

It is increasingly been accepted by various stakeholders that the realization of development targets in the developing countries depends more, among other measures, on knowledge. One of the centerpieces of international aid efforts in the new millennium has been the effort to achieve eight millennium developments goals (MDGs) for developing countries by the year 2015. Achieving the MDGs paradigm will require both knowledge and skills. e-learning is gaining popularity and bringing knowledge to our doorposts. Can it deliver in respect of achieving the 8 Millennium Development Goals? This paper explores how e-learning is situated in the drive towards realization of MDGs in the African continent. Literature studies have been conducted to determine the potentials and possibilities inherent in e-learning as a tool for MDGs realization in Africa. The success of e-learning largely depends on access, affordability of technological resources and willingness of the people.

**Keywords:** e-learning & Millennium Development Goals (MDGs)

### Introduction

It is now globally understood that Information and Communication Technologies have become an indispensable part of national development. The information revolution is a clarion call for paradigm shift or new imperatives in the ways in which people worldwide mobilizes and utilizes communication resources. The gradual understanding of this fact has necessitated the growing demand for democratizing access to information society which has enabled the greater participation of people in the process of political, economic, social and cultural governance.

The adoption of information society by nations is not only redefining the significant role of communication in the society, but is also accelerating the emerging trend of participatory communication in the form of communication based on the exchange of ideas and information to improve the lives of people in various communities. Ayedun-Aluma (2010) notes that the information society paradigm depicts a societal scenario where the creation, dissemination, utilization, integration and manipulation of information is a significant socio-economic, political and cultural activity, propelled in today's world by information technologies. This scenario connotes that societal development is facilitated by information which translates into knowledge that is eventually used for societal development.

In September, 2000 at the United Nation Millennium summit, nations outlined eight 8, goals to be achieved by year 2015 that seeks to respond to the worlds main development challenges. The Challenges were drawn from the actions and targets contained in the Millennium declaration. These goals are what is popularly referred to as MDGs (the Millennium Development Goals) (MDG Report 2005)

The MDGS are:

- Eradicate extreme poverty and hunger
- Achieve Universal Primary Education
- Promote Gender equality and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development.

Nations worldwide, both the developed nations, that provide the needed aid and the developing nations that are the targets of the MDGs, have over the years concentrated on realizing these goals using various strategies emanating from various quarters on how best to achieve these set goals. Among these strategies is the application of Information Communication Technologies (ICTs) to facilitate the realization of these goals. In recent times e-learning, which is an integral part of ICTs services has continued to gain popularity and acceptance by countries worldwide. The reason for this is not farfetched. It is due to its uniqueness in providing the participants, regardless of location, the opportunity to learn various but relevant subject matters on their own

from experienced resource persons worldwide.

There are criticisms that ICTs are not making any difference in the lives of people in developing countries especially Africa. For example Black (1999) notes that in the developing world, ICTs have not delivered on its early expectations. Weak infrastructural base has rendered the benefits of ICT elusive. Many people in developing countries like Nigeria, especially the poor in rural areas who are still struggling to address their basic human needs, such as the endemic problem of poverty, illiteracy etc believe that ICTs are making no impact on their lives (World Bank Report 2005) The report also notes that unlike in other services, ICTs are also failing poor people in many ways. There are also revelations that Africa is the only continent not on track to meet any of the goals of the Millennium Declaration by 2015 and thus considered well behind target on reaching all goal (UN World Summit Declaration, 2005, Blair Commission for Africa, 2005). Similarly, analysis by Easterly (2009) identified statistical presentation from various international bodies and national leaders paints an implied picture of general failure in Africa to meet all 8 MDGs.

In view of these criticisms and revelations, it is imperative we ask ourselves these questions: would adopting e-learning as a strategy deliver in the efforts to achieving the MDGs in developing countries? Can e-learning fit as an integral part within the framework of MDGs policy plan? Can e-learning fastrack the lost years? These questions would form a launch pad for this paper.

This paper explores the relevance or the role of e-learning in facilitating the realization of MDGs in developing countries. The objectives of this paper are : to identify the potentials of e-learning in achieving MDGs, to identify possibilities and strides, of utilizing e-learning for achieving MDGs in Africa.

The MDGs issue is widely covered in Nigeria and other African countries by the media and other sources of information. In fact in Nigeria MDGs projects and support schemes are so widely evident that one would not need a soothsayer to identify especially MDGs projects. Therefore, methodically, this paper relied on available relevant secondary data (official documents, media contents, research findings and websites information) in other words, literature study was conducted to address the set objectives

### **E-Learning**

E-learning is a term that covers a wide range of instructional materials that can be delivered on compact disc-Rom DVD, over a local area network (LAN) or on the internet. It includes computer-based training (CBT), web-based training (WBT) electronic performance support system (EPSS), distance or online learning and online tutorials. Kurtus (2004) notes that e-learning provides participants (learners) with information that can be accessed in a setting free from time and place constraint. The learners can go through the materials (lesson) at their own pace. It is authored methodically, considering the user interface and effective transfer of knowledge.

e-learning has advantages over traditional training for participants:

- Cost Effective: Major consideration in learning is cost. As the number of people been trained increases, it becomes more cost effective to develop e-learning materials than to send people to class.
- Practical: When trustees are widely dispersed, travel time and cost to send them to class could be prohibitive. Sending CBT or WBT materials to these trainees would make more sense.
- Standardized – Since different teachers and trainees have different styles of instruction, trainees may not be receiving the same training. Training is based on learners preferred field. e-learning ensures standardization of training and contents presented.

To effectively harness the potentials of e-learning, there is need to put in place the basic technological requirements, such as access to computer, access to internet, computer literacy and good development of contents. There is also need to take into consideration what technologies they familiar with and where they will get affordable online access (Macdonald, 2013). The European parliament decisions in 2003 on European e-learning programme states that ICTs if and when properly used contributes to the quality of education and training and also ensure the realization of a knowledge-based society. The Europeans Commission and some international aid organization such as USAID, UNESCO, International Telecommunication Union etc, have been very active in supporting and complementing the efforts of nations in this field. For example one of Sonny Ericsson Telecommunication greatest contribution to sustainable development and the Millennium Development Goals is to make ICT more accessible and affordable for all. ICT supports economic growth and quality of life and enables developing nations and individuals to seize the opportunities of the Networked Society (Sonny Ericsson Sustainability And Corporate Responsibility Report, 2011). In Nigeria, financial institutions and the Nigeria Communication Commission have deployed ICT facilities (computers, Vsatetc) in several schools across the country to enhance access and most recently the Federal Ministry of ICTs in Nigeria is promoting construction of ICT centres in rural areas across the country. These centres are designed to promote affordable access.

Through e-learning initiative and action plans people have gained considerable experience in encouraging, networking and exchange of good practice at global level. The e-learning effort is a step towards realizing the vision of technology serving lifelong learning. For examples, in developed society like Europe, the e-learning

programme focus on a set of actions in high priority areas chosen for their strategic relevance to the modernizations of Europeans education and training system. The e-learning plan of action promotes best practices and strengthens cooperation between all those involved. John Chambers president and CEO of GSCD system notes that the “next big killer application for the internet is going to be education. Education over the internet is going to be so big that it would make email usage look like a rounding error. Salawudeen (2006) describes e-learning as a phenomenon delivering accountability, accessibility and opportunity to allow people and organizations to keep up with the rapid changes that define the internet world, which has become a force that gives people and organizations the comparative edge that allow them keep ahead of the rapidly changing global economy.

### **e-learning and MDGs**

It is obvious that information is a pre-requisite for empowerment that enables people to actively participate in the development process by contributing ideas, taking initiative, articulate needs and assess their autonomy (Ascroft and Masilela, 1994).

Marshall McLuhan in the 1960s in his technological determinism paradigm notes that technology invariably cause cultural change. Mode of communication shape human existence. That, family life, workplace healthcare, friendship, religion, recreation, politics are all touched by communication technology. Media extend people’s reach and increase efficiency and also act to further organize and interpret the social existence of the people. The way people live is a function of the way they process information (McLuhan ,nd). Situating e-learning in McLuhan’s paradigm of technological determinism connotes that e-learning can facilitate development depending on how the information is processed by participants. Similarly, the Sonny Ericsson 2011 report points out that Connectivity is a basic enabler for economic growth and improved quality of life. For developing regions keen to seize the opportunities of the Networked Society, ICT facilitates education, health, safety and security, and livelihoods, in support of the Millennium Development Goals (Sonny Ericsson Sustainability And Corporate Responsibility Report, 2011). ITU and UNESCO set up of the Broadband Commission for Digital Development in response to the United Nations (UN) call to step up UN efforts to meet MDGs is a pointer to the fact that ICTs hold potentials interm of promoting positive change through learning, for a vast majority people, even if they do not have first-hand access.

e-learning is one of the ICTs components that could be harnessed to stimulate growth and development in developing countries. if properly utilized it has the potentials of creating an information/knowledge based society which would in turn facilitate the eradication of poverty and hunger, achieving universal primary education, promoting gender equality and empowerment of women, reduce child mortality, improve maternal health, combat HIV/AIDS and other diseases, ensuring environmental sustainability and develop global partnership for development. It is now possible to leverages the enormous power of ICTs in the development plans, to help accelerate progress towards meeting MDGs (Broadband Commission for Digital Development, 2011) I will go through the eight MDGs to highlight possibilities and potentials of e-learning in facilitating MDGs realization.

#### **A) e-learning and Eradication of Poverty & Hunger.**

The Millennium declaration on eradication of poverty states that extreme poverty remains a daily reality for more than 1 billion people who survive on less than one dollar a day. Hunger and malnutrition are almost equally perceived. More than 8000 million people have little to eat to meet their daily energy needs. However, overcoming poverty and hunger is possible through knowledge. e-learning as an educational tool can go a long way in the effort to eradicate poverty and hunger Elijah &Ogunlade (2006) note that information dissemination tools are often viewed as extremely powerful tools that have proven useful in many areas.

Education is essential to ending poverty and ensuring a productive life for people all over the world. With ICTs all young people can have the opportunity to learn. Mobile broadband makes it possible to connect even the most remote village classrooms so that they can benefit from 21st century educational resources. The Broadband Commission believes that high speed, high capacity broadband connections to the internet are critical infrastructure in modern society that can promote education through e-learning, by improving access to digital resources thereby extending education to more people of all ages, at all levels and training teachers , extension officers and entrepreneurs. Knowledge and skills acquired would be applied to enhance the livelihood of people in poor rural communities through diffusion of relevant information that relates to their economic livelihood, better access to other information sources and health care.

It is not a hidden fact that computers and internets connectivity are still largely restricted to the urban areas in Africa ; however, initiatives like the Millennium Villages Project (MVP) by Sonny Ericsson and Earth Institute at Columbia University is bridging such gaps in many African countries (Nigeria :in Pampaida and Ikaram, Malawi: in Mwandama, Rwanda: in in Mayange, Ugand: in Ruhiira, Ghana: in in Bonsaaso, Tanzania: in Mbolaetc) . Such a project has the potential to provide a broad based and enhanced access to information

resources for remote poor rural communities . The Nigerian government has taken the bold step of establishing rural information technologies centres and improving on rural telephoning so as to empower rural dwellers with relevant information. Youths in Nigeria now understand the benefits and the modalities of forex trading which is empowering jobless school leavers financially.

The Millennium Villages Project (MVP) initiative is a move towards fighting poverty at the village level. Mobile broadband and cloud computing offer low-cost and user-friendly ICT so that students and teachers can access world-class information and educational resources. Interestingly, Mobile phone technology is the basis for many of the groundbreaking tools and systems developed by the MVP. With 330 million over mobile phone in sub-Saharan Africa, ICT is a driving force for economic development. 2011 MVP Report summarizing the project's impact from 2006-2010, reveals that

“More than 500,000 people throughout 11 countries in sub-Saharan Africa benefit from mobile connectivity as a result of engagement in the MVP. At the end of 2011, over 90% of the village clusters were connected. Pastoralists in nomadic communities use their mobile phones to check prices and decide whether or not to bring their livestock to market. Schools that once sent students home when the sun went down due to lack of electricity now have solar panels to run lights as well as energy-efficient computers with wireless 3G Internet access. “

A look at the issue of hunger, an important factor in meeting the challenge of ensuring food security is human resources development which could be achieved through knowledge building and information sharing on issues that relate to food production, which e-learning has the capacity to provide. The Food and Agricultural Organization (FAO) report states that information, education and training allow partners to make use of new farming knowledge and technologies to improve productivity. Research has shown that both formal and non-formal training have a substantial effect on agricultural production (FAO 1992)

An FAO study conducted in Nigeria in 1992 found that an increase in the average education of farmers by one year increased the value added to agricultural production by 24% (Economic Commission for Africa 1999). e-learning can offer information and knowledge which are critical components in hunger & poverty eradications. Increase in knowledge translates into improvement in human condition of living. A recent initiative by the Federal Ministry of agriculture Nigeria, to distribute mobile phones to millions of farmers is a step to boost farmers education and access to information. e-learning like any other form of learning helps people in rural communities to expand horizons, increase perception, enhance competencies, enlarge sense of perspective and enhance self esteem (Rogers, 1992).

### **B- e-learning and Universal Primary Education**

Education gives people choices regarding the kinds of lives they desire to lead. It enables people develop confidence in their personal relationship in the community. But for millions of children of primary school age who are out of school (UNDP 2005). this means human right is being denied children who are mostly from poor households whose parent often lack formal education and do not understand the benefits of education . The Millennium declaration states that achieving the UBE goal will require a dramatically scaled – up effort in Sub-Saharan Africa, Southern Asia and Oceania in terms of providing adequate information on the need to be educated and provide a conducive learning environment for their children. Other stakeholders also require relevant information from other nations that have realized a reasonable level of universal primary educations. e-learning is one of the reliable tools for achieving this information with ease. For example useful educational development efforts are readily available on websites. e-learning would also provide materials for Teachers and Learners when ever it is required through the use of CDs and DVDs which will help in transforming education in many ways and enable them develop skills in teaching/learning. For examples the UNESCO sponsored learning Network for Africa Teachers (LNAT) project, uses internets-base approach to help teachers to become better learners and teachers. The Global Education Network for Africa (GENA) is another project which makes available materials for broadcasting in distance learning. The aim is to establish a network to allow public broadcasters to contribute in transmission of educational programming.

An initiative by Ericsson, the Earth Institute at Columbia University and Millennium Promise is the “Connect to Learn” programme that leverages the power of ICT to bring a high-quality education to students everywhere. Through School2School, classrooms from the Millennium Villages and Millennium Cities Initiative in Africa are connected to classrooms in the United States, fostering cross-cultural learning and communication. African schools in Ghana, Tanzania, Kenya,

Uganda, Nigeria, Rwanda, Malawi and Senegal are beneficiaries of the “Connect To Learn” project. Eighteen schools in the Millennium Cities Initiative are connected in Kumasi, Ghana in 2011 now connect with American schools to explore a syllabus based on the MDGs ( Ericsson ,2011).



### **C) e-learning and Gender Equality/women Empowerment**

Gender equality is a human right and at the heart of achieving the Millennium development goals. It is a prerequisite to overcome hunger poverty and disease. In many rural areas in developing countries women remain the economically and socially marginalized. They are often under educated and with relatively poor prospects in various aspects of life. The MDGs in this case is a call for empowerment and equality in levels of education and all areas of work, control over resources and equal representation in public/political life. It is also a call to have an equal voice in decisions that affect their lives from within, to the top most realm of government. In Africa , women are responsible for 80% of all the food produced for national consumption and export, thus with the right knowledge and tools, many could increase their productivity (Broadband Commission for Digital development, 2011)

e-learning can go a long way in realizing this goal. Information is a tool for empowerment and participation brings empowerment, by encouraging women to be active in development process. For example e-learning is being used for distance learning for women in Saudi Arabia, Egypt Tunisia and South Africa. The increased demand for women to be heard has created the need to develop information technology skills to advance themselves in managerial and decision-making levels.

Women organizations in Africa (e.g New Faces, New Voices, have been some of the proactive players in democratizing access to the information society. The question of training and how ICT policies take into considerations the needs of women at all levels becomes a critical issue in the access debate. In Africa, women organizations in collaboration with international partners have committed themselves to the use of ICT to promote the acquisition of knowledge and encourage interactions between different groups in the society to facilitate rapid and equitable socio-economic development among women globally. e-learning is therefore strategic in this regard. Efforts are directed towards ensuring that women benefited fully from ICT, including equal access to ICT-related education, training and entrepreneurship opportunities and equal access as producers and consumers of ICT (Slater and Tacchi , 2004). Farmwise is a project which is helping women farmers in the rural village of Mwandama in Zomba district, Malawi, to improve agricultural production. The project developed a computer database system with a web-based interface and e-mail facility to help women farmers determine what they can expect to harvest from their land, which crops can be grown given the soil type and fertility, and what inputs and when it should be used

### **D) .e-learning and Reductions of Child Mortality**

The death of a child is a tragic loss yet, every year almost eleven million children die, and that is 30,000 children a day before their fifth birthday (UNDP 2005). Most of these children are from developing countries and die from disease or combinations of disease that can be prevented or treated by existing inexpensive means. Education can play a key role in this regard .e-learning would definitely help raise awareness and knowledge of parents on the basics of diseases prevention and treatments. It would also attend to the needs of health researchers and professionals who require access to up-to-date research and reference materials. It would also afford health workers rapid information exchange, conferencing, distance learning as well as access to urgent advice and diagnosis from professionals in other part of the globe. Health Net has satellite in space (Health Sat 1 launched 1991) and Health Sat II, launched 1993) and currently use internet to serve thousands of health care workers globally. e-learning would help reduce isolation and enable health workers make better and more informed decisions.

In East and Central Africa, such as Kenya and Rwanda have prioritize broadband as a platform for future health service delivery, which would give people the opportunity to access information, create information, use information and share information to meet the MDGs (Toure, Cited in Broadband commission for Digital Development, 2011). In Tanzania, The Mashavu project uses mobile phone to collect data regarding child blood pressure, height, weight and other statistics for aggregate website portal that medical practitioners could monitor and share experiences with other health workers. These are various forms of e-learning efforts.

### **E). – e-learning and improving maternal health:**

For more than half a million women each year, pregnancy and childbirth end in death. Twenty times as many women suffer serious injuries or disabilities which if untreated results to life long pain, humiliation and eventual death (Millennium Declaration, 2005). Universal access to reproductive health care including family planning is the starting point of maternal health. Relevant information is also necessary in ensuring proper practice .e-learning has a role to play in achieving this. For examples e-learning can come handy in the women unmet needs for safe and effective contraceptive information(family planning), hygiene and other reproductive health issues including visual presentations using local languages. High speed internet and other ICTs facilities enables health workers through e-learning receive quality training and exchange experiences through various interactive forum . In Nigeria , as part of a broader effort to connect health facilities, has linked several centres to provide midwives with live training via video conferencing. Rwanda has in place a system that collects and enter health data via

mobile phone. ITU has helped nations like Senegal, Mozambique, Uganda etc established telemedicine network for specialist support, monitoring and diagnosis electronically regardless of location or distance. Ericsson is also supporting several African countries (Rwanda, Tanzania, Senegal etc ) through its mobile Village project and Digital health initiative transform the health sector through telemedicine.

#### **F). – e-learning and combating HIV/AIDS and other diseases.**

Since AIDS was first reported about 25 years ago, it has become the leading cause of premature death in sub – Saharan African and the fourth largest killer world wide. More than 20 million people have died around the world since the epidemic began (Millennium Declarations 2005) . Other deadly diseases includes malaria, tuberculosis etc .malaria kill more than four million people every year (Broadband Commission for Digital Development, 2011) it is believed that these diseases can be largely controlled through education, among others measures. Developing a qualitative e-learning structure would greatly assists in educating people on how to control and prevent these diseases. e-learning is a vital tool in today's global effort in combating HIV./AIDS it provides a base for HIV/AIDS campaign and provision of quality information to those at risk , researchers and health workers world wide. Success of combating these diseases most times rests in persuading people to adhere to preventive measures, such as using condom, insecticides. UNESCO has developed an interactive e-learning courses on HIV/AIDS for educators. In South Africa, the broadband and mobile phones are used to check that AIDS and Tuberculosis patients are taking their medication and to enter and access patient information. In South Africa, sophisticated geographical information system are used (MARA/ARMA project) to map malaria in sub-Saharan Africa which provides update and disseminate life-saving data.

#### **G). e-learning and environmental sustainability**

Lately there has been global campaign of the need to use natural resources wisely and protecting the complex ecosystem on which our survival depends. Land is becoming degraded at alarming rate, plant and animal/species are being lost, the climate change with its threat on rising sea levels and worsening drought and flood. Overcoming these would require unprecedented level of global cooperation through massive enlightenment drives. One of the fastest ways to reach people even in the rural areas is through the applications of e-learning to educate people on several measures to preserve the environment. It would also afford researchers world wide, the opportunity to exchange ideas on environment related issues. In Uganda, sophisticated mapping techniques are even laying data from a variety of sources are enabling policy makers and environmental experts to better manage the country's wetlands. International partnership involving the global humanitarian forum, World Meteorological organization and , Ericsson, Zain has deployed up to 50,000 automatic weather station at mobile phone transmitting stations across Africa. The project is designed to provide information directly to farmers and fishers via mobile phone to educate, predict and manage erratic weather pattern due to climate change (Broadband Commission for Digital development). E learning in this regards can empower rural dwellers by giving them access to information and providing a means for them to share their concerns and mobilize for change.

#### **H). e-learning and global partnership for development.**

The core of the Millennium Development Goals is the understanding that fighting poverty is a collective effort and that all countries have a stake in the results. The primary responsibilities to achieve the goals rest on developing countries coupled with international support. The effort is to maintain the economy and address human and social needs. ICT among others things stands out as a driving force. Its ability to diffuse relevant knowledge makes it distinct. Hence, application of e-learning would not only provide the required knowledge but would take information down to the grass root and to the corridors of the people. When knowledge is made available and put to appropriate use, result is inevitable. The ITU "connect the world" campaign is a global initiative designed to narrow the digital divide by connecting all communities by 2015 and by ensuring half the world population has access to broadband services. Progress to connect the world will depend on thinking creatively about how to speed up access. E-learning could come handy in this case by providing a platform to educate and share experiences among stakeholders (Dossal cited in Broadband Commission for Digital Development, 2011).

#### **Conclusion**

From time immemorial, Information has been a source or facilitator of change or transformation. People have continued to look for ways to effectively transmit and diffuse information. With the emergence of the internet and the unprecedented development of other information technologies, today, knowledge sharing in terms of speed and access is beyond man's imagination.

Society's growing desire is to learn and share new ideas and knowledge about current development, has necessitated the emergence of various means of accessing knowledge, one of which is e-learning practice. A

phenomenon that if properly applied and harnessed makes a remarkable contribution to education. The Developing countries are the target of MDGs therefore, among others things, developing its e-learning base would assist in no little way in facilitating the realization of MDGS. There is no doubt e-learning can deliver on MDGS when properly developed.

It is obvious from the various ICT projects/efforts directed towards knowledge/information generation and dissemination, that e-learning holds great workable and realizable potentials for the attainment of MDGs in the African continent. The success of e-learning largely depends on access, affordability of ICT resources and willingness of the people.

## REFERENCE

- Asirolt, J. Maselela S. (1994) Participatory decision making in third world development, in while S., Nur.K and Asirolt J. (eds) *Participatory communication, working for change and development*. New Delhi, Sage Pub.
- Ayedun-Aloma, V. (2010) Information paradigm of Development Communication and development problems in Nigeria, *The Nigerian Journal of Communication*, 8 (1), 118-137
- Black J. (10<sup>th</sup> September, 1999) *For developing world the internet has not delivered wealth*, New York times on the web
- Blair Commission for Africa (2005). Our common interest: Report of the commission for Africa. London: Penguin Books.
- Broadband Commission for Digital Development, (2011) Millennium development goals, Retrieved 25/6/2013 from [www.broadbandcommission.org/MediaCorner/Stories/MDGs1.aspx](http://www.broadbandcommission.org/MediaCorner/Stories/MDGs1.aspx)
- COFEP (2006) Millennium Development Goals, *CCOFEP News*, 1 (1)
- Economic Commission for Africa (1999) Democracy access to the information society, Economic Commission for Africa
- Emeka, A. (6 June, 2007) e-learning Africa conference call for building ICT infrastructing, Vanguard Newspaper
- Europeans Parliament (2003) Decisions No. 2318/2003/EC 5 December, Europeans Parliament
- Kurtus R. (2004) e-learning; Retrieved 27/7/2007 from <http://elearningeuropa.info>
- Macdonald, J. (2013) Designing support for distance learning, Paper presented at a Workshop on online writing, student support and facilitation for staff at Ahmadu Bello University, Nigeria February 24
- Obaye, U. and Ogunlade E.(2006) Analysis of the uses of ICT for gender empowerment and sustainable poverty alleviations in Nigeria, *International Journal of Education and Development using ICT*, (3)
- Rogers, A (1992) Adult Learning for development. London, Cassell
- Slater, D and Tacchi, J (2004). ICT Innovations for Poverty Reduction. New Delhi: UNESCO. Retrieved 25/6/2013 from <http://www.bellanet.org/leap/docs/136121e.pdf?OutsideInServer=no>
- Sony Ericsson (2011) Technology for good, 2011 sustainability and corporate responsibility report, Retrieved 25/6/2013 from [www.ericsson.com/sustainability](http://www.ericsson.com/sustainability)
- United Nations. General Assembly, 60th Session. (2005). Resolution adopted by the General Assembly: 2005 World Summit Outcome (A/Res/60/1). October 24. Retrieved 25/6/2013 from <http://unpan1.un.org/intradoc/groups/public/documents/UN/UNPAN021752.pdf>
- UNDP (2005) Millennium declarations, UNDP. Retrieved 16/2/2009 from [www.undp.org](http://www.undp.org)
- World Bank Report (2005) measuring the impact of communication in development project and Programme, Washington, World Bank