

THE PLACE OF ICT IN THE SUCCESSFUL  
IMPLEMENTATION OF THE EDUCATION REFORM  
UNDER NEEDS AND MILLENNIUM DEVELOPMENT  
GOALS (MDGs)

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**ABSTRACT**

*This paper presents an attempt to examine the place of ICT in the successful implementation of NEEDS' education reform programme (NERP) and that of the Millennium Development Goals (MDGs). Apart from the discussion of some relevant aspects of both NERP and MDGs, the paper contains an examination of the concept of ICT, the role of ICT in the implementation of NERP and MDGs as well as a word for head teachers and principals. The paper concludes with some recommendations one of which is that serving teachers should be given the opportunity within a specific period to become ICT in education literate through in-service education.*

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## **INTRODUCTION**

NEEDS (National Economic Empowerment and Development Strategy) is a reform programme set up by Nigerians to meet the numerous development challenges facing the country. Since after independence, the country has been experiencing diverse political and economic problems which have made it difficult for the people to join those in the developed nations in enjoying the numerous benefits of information and communications technology (ICT) based development. These ICT based developments occur at such unprecedented rate that every country is struggling to keep pace so as to survive the global competition on the information super highway. Consequently every country has one form of reform agenda or the other. It is consoling that Nigerians are making concerted effort to join the global race of education reform. The major aim is to establish the type of education system that can produce citizens who can contribute effectively to life in the society. It is within this reform agenda that NEEDS was established. The primary aim of NEEDS is to restore the value system of the people by laying the foundation for the creation of wealth, generation of employment, reduction of poverty, elimination of corruption and a total reorientation of value (National Planning Commission -NPC, 2005). NEEDS recognizes poverty as the greatest challenge facing the country. According to the NPC (2005:30), the many manifestations and dimensions of poverty in Nigeria include "over –indebtedness , economic dependence, lack of freedom, inability to provide the basic needs of life for self and family, lack of access to land and credit, and inability to save or own

assets”. As a matter of fact, the case of poverty in Nigeria is not only ridiculous but paradoxical. Despite the fact that Nigeria is an oil-producing nation, more than 70 percent of the people live in poverty. While some countries especially those in the developed world that apparently are not as much blessed with natural resources as Nigeria are working hard to maintain their position above poverty level, Nigeria continues over time to sink deeper into poverty. NPC (2005:28) observes that “the poverty rate in Nigeria increased from 27 percent in 1980 to 66 percent in 1996 and to over 70 percent by 1999. Consequently, Nigerians in NPC (2005) want to change this trend of events not only by mapping out strategies for boosting the economy and creating wealth but also by empowering the people through value reorientation strategies. It is interesting that NPC (200:35) presents NEEDS’ Education reform program (NERP) as recognizing “education as the vital transformation tool and a formidable instrument for socio-economic empowerment”. By presenting education as a vital force in achieving the goal of creating wealth, reducing poverty and instituting value reorientation, NERP closely identifies itself with the United Nations Millennium Development Goals.

The eight Millennium Development Goals (MDGs) declared by the United Nations General Assembly at its fifty-fifth session in 2000 are geared towards poverty reduction and achieving universal primary education among other things by 2015. With regards to poverty, the UN General Assembly resolved to reduce by 50 percent the proportion of people who earn less than one dollar a day and that of those who suffer from hunger and inaccessibility of drinking water.

Apart from making the achievement of universal primary education one of the eight millennium goals, the UN general assembly also resolved to develop and implement strategies for job creation and also to ensure that the benefits of information and communications technology (ICT) are available to people everywhere. This is significant in the sense that given the extent to which ICT system have permeated life activities, a person's inability to enjoy the many benefits of ICT is an aspect of poverty.

In line with these UN resolutions, NPC (2005) presents NEEDS' education reform programme (NERP) as seeking among other things to reduce poverty by increasing the average per capita consumption by a minimum of 2 percent a year, creating 7 million jobs by 2007 and achieving 70 percent accessibility to drinking water. In the same regard NERP is aimed at implementing the Universal Basic Education and also ensuring that more fund is spent on giving people training and exposure to ICT. It is pertinent to note that both the MDGs and NEEDS recognize the place of ICT in poverty reduction and in general human empowerment. However these are documents with contents that can only be validated by practice. Can ICT promote the achievement of the NERP, and the MDGs? What considerations are school principals expected to make to ensure that ICT contributes to the successful implementation of NEEDS' education reform and the MDGs?

## **THE CONCEPT OF INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)**

The term information and communications technology (ICT) was introduced in the early 1990s to replace that of information technology (IT) in recognition of the communicating abilities and facilities offered by the computer. However, while most people adopted the term ICT, people in higher education used the term communication and information technology (C & IT) to refer to the same concept.

The term ICT covers a whole range of applications, techniques and systems (Clarke, 2006). Lallana and Margaret (2003:7) clearly opine that ICT “refers to a broad field encompassing computers, communications equipment and the services associated with them.” ICT is not just considered as applications and systems but also as skill for life. In this sense it is regarded in line with literacy and numeracy as a fundamental skill which every individual needs so as to live “confidently, effectively and independently in a modern society (Clarke, 2006: 30). Also ICT as a key skill underlines learning in different subject areas while it is developed through each subject (Tanner:2003 and Kennewell (2004). This identification of ICT as a skill for life informed its introduction in the school curriculum in the developed nations. ICT has three positions in the curriculum and these are learning about ICT, learning with ICT and learning through ICT. Learning about ICT refers to ICT concept as a subject of learning in the school curriculum while learning with ICT is concerned with the use of ICT as a medium to facilitate instruction. While sharing this view, Pelgrum and Law (2003:23) maintain that “learning through

ICT refers to the integration of ICT as an essential tool into a course/Curriculum, such that the teaching and learning of that course/curriculum is no longer possible without it". This implies that ICT can be learnt as any other subject in the curriculum. It can be an instructional medium or a source for learning. It can also be integrated in the learning process so that learning takes place through the learner's interaction with the facilities. Therefore ICT in education is considered as discipline, resource and key skill. Within these three broad areas, ICT offers enormous benefits to the society. This is based on the fact that ICT education and in education is concerned not only with equipping learners with knowledge and skills for the information age but also with boosting the economic and political status of the country. Besides, "nations that succeed in harnessing the potential of ICT can look forward to greatly expanded economic growth, dramatically improved human welfare and stronger forms of democratic governance" (Chandrasekhar, Kumar and Karnik, 2004: iii) It is in this regard that current reform programmes being implemented in different parts of the world such as the NEEDS' Education Reform Programme (NERP) and Millennium Development Goals (MDGs) recognize the place of ICT in the over all strategies for achieving stated development goals.

## **ICT IN THE IMPLEMENTATION OF MDGs AND NERP**

ICT plays vital roles in the successful implementation of NERP (NEEDS' Education Reform Programme) and MDGs in relation to poverty alleviation, acquisition of basic education skills, job creation and value reorientation. With regards to poverty alleviation, it is generally upheld that income is only one indicator of poverty. According to Harris (2004:6) while the World Bank report presents poverty as including "powerlessness, voicelessness, vulnerability and fear", the European Commission maintain that it includes "deprivation of basic capabilities and lack of access to education, health, natural resources, employment, land and credit, political participation, services and infrastructure". Poverty is also presented as lack of access to information (ZEF in Harris: 2004). All these imply that poverty has many dimensions. The use of ICT for the alleviation of these is often difficult to ascertain. Can ICT improve life for a poor illiterate farmer in the village? Can a destitute, jobless, sick or a homeless person gain from ICT? It is pertinent to note that most poverty alleviation ICT-based projects established in different parts of the world show that apart from the provision of facilities, ICT makes available to people the knowledge and information they can use to solve their poverty based problems. One of such projects is the India shop which is an Internet based virtual shopping mall where goods are promoted and bought over the Internet, while the e-marketers draw commissions according to the sales a person is able to achieve. Another significant area of ICT in poverty alleviation is health care. ICT is very useful in diagnosis as well as in dissemination of

public health messages and disease prevention. ICT also helps in poverty alleviation in the areas of m-commerce (such as using mobile telephones or personal data assistants (PDAS) for buying and selling of goods and services; e-governance; employment and education among others. E-governance makes government more accessible to the poor, makes government data and documentation easily accessible to the poor and reduces the time and money people spend in trying to get information from government officials. In fact it is through e-governance that ICT alleviates the powerlessness, voicelessness, vulnerability and fear aspect of poverty. Alampay, Heeks and Soliva (2003:5) share this view and state that "ICTs already allow people in some countries to file their tax returns online and obtain documents like birth, marriage and death certificates, without having to physically travel to the government agency assigned." ICT is very useful in the area of employment in the sense that it creates job opportunities and also helps unemployed people to discover job opportunities in different areas. The most common ICT-generated employment for young people is found in Call Centers where the workers render services involving telephone calls, fax, e-mail etc.

The role of ICT in the achievement of universal primary education is enormous. Apart from enhancing learning across subject areas (Akudolu, 1997; Pachler, 1999; Olibie, 2003; Loveless, 2003; O' Hara, 2004; and Clark, 2006), ICT removes the barriers of time and location in the provision of learning opportunities. ICT is not only concerned with the provision of e-learning for adults but also for primary and secondary school pupils who cannot avail themselves to



formal school opportunities as a result of constraints of time and place.

According to Harris (2004:22) “in Mexico, over 700,000 secondary school students in remote villages now have access to the Telesecundaria program, which provides televised classes and a comprehensive curriculum through closed –circuit television”. Harris also describes how the Committee to Democratize Information Technology (CDI) in Brazil has created 110 sustainable and self-managed community based Computer Science and Citizenship Schools using recycled technology. Besides, it is through the development and implementation of ICT based education that NEEDS’ aspiration of Improving training and exposure to ICT at all levels can be realized. Therefore ICT is indispensable in the achievement of NEEDS education reform programme (NERP) and the MDGs. It is in this regard that Chandrasekhar, Kumar and Karnik (2004) declare that ICT makes it possible for nations to meet development goals such as poverty reduction, basic healthcare and education. However for ICT in education to promote the achievement of both MDGs and NEEDS goals, there is need for the effective management and coordination of ICT resources. This is an area that demands a lot of contributions from schools head teachers and principals.

## **A WORD FOR HEAD TEACHERS AND PRINCIPALS**

The extent of successful implementation of ICT in education depends to a great extent on the principals or education managers. ICT in education is a target –oriented innovation which is very demanding in terms of financial, material and human resources. The huge financial involvement makes it necessary for the principal to understand clearly the meaning of ICT, its benefits to human beings especially in education and how ICT in education can be developed and implemented. The Scottish Executive (2000:8) presents some ideas, which a principal who is in the process of starting ICT in education should consider. These are:

1. Find out where the school is now -What is the current provision in curriculum recourses, for training and other needs.?
2. Find out where the school needs to be.
3. Decide how the school will get there.
4. Create an ICT section in the school development plan.
5. Conduct a staff training ICT needs assessment.
6. Review the curriculum.
7. Consider approaches to teaching and the structuring of tasks.
8. Consider how ICT can have impact on a range of learning approaches.
9. Consider the ICT present learning environment and what is needed to deliver the curriculum.
10. Determine how assessment, recording and reporting for ICT will be done.
11. Consider developing a policy statement for ICT across the school.

12. Determine how monitoring and evaluation of ICT will be carried out.

The Scottish Executive also presents indices of ICT successful implementation as a guide to principals. According to the Scottish Executive (2000:6) ICT in teaching and learning is successful where pupils are:

- Ø Motivated, challenged and required to think for themselves;
- Ø Encouraged to be independent and confident users of technology;
- Ø Set tasks that encourage cooperation and collaboration to tackle them and to solve given problems; and
- Ø More responsive in the context of support for learning activities

These indices of successful ICT in education should guide every principal during the development and implementation phases of ICT in education in his/her school. At the planning stage, they guide the selection of learning content and resources while at the implementation stage they guide the process of evaluation. One underpinning requirement is that every school principal should endeavour to be ICT in education literate and to be competent in the use of technology. Tinio (2003:23) declares that for effective and sustainable ICT in education, the principal or administrator “must have a broad understanding of the technical, curricular, administrative, financial and social dimensions of ICT use in education. Without this type of understanding, the principal cannot provide the leadership necessary for the achievement of the NERP and the MDGs through ICT.

## **CONCLUSION AND RECOMMENDATIONS**

Both the NERP and MDGs are geared among other things towards developing and implementing strategies for eradicating poverty in all its ramifications. It has been shown in this paper that the use of ICT can lead to the achievement of NERP and the MDGs. However, this can only be possible when ICT is effectively implemented in schools and in the society. To promote the development and implementation of ICT in education the following recommendations are made.

1. ICT Education should be compulsory in all schools in Nigeria, from nursery to tertiary institutions.
2. Serving teachers should be given the opportunity within a specific period to become ICT in education literate through in-service education.
3. Government should ensure the provision of basic ICT facilities in all schools.
4. School principals should involve the parent-teacher associations in the provision of ICT facilities in schools.
5. Every school should have an ICT coordinator
6. The State and Federal Ministries of Education should ensure the provision of electricity in every school.

### QUESTIONS FOR DISCUSSION

1. What is the most effective way for involving members of parent teacher association (PTA) in the development and implementation of ICT in education?
2. Apart from the PTA, what other possibilities can school principals try to exploit for assistance in the development and implementation of ICT in education?

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