

The Role of Information Communication Technology (ICT) in Rural Development of Nigeria

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Abstract

Information and Communication Technology (ICT), the world over, has gained prominence, especially in the area of communication, to the extent that the level of understanding of several tenets in every sphere of life has also been better understood, arising from the gains of communication empowered by technology. It is common knowledge to aver that communication that is imbued with digital ingredients know no boundaries. It means, therefore, that information and communication technology cut across all shades of people, irrespective of culture, location among others, provided that the accessibility is ultimately guaranteed. Thus, in Africa, rural dwellers are kept abreast with happenings globally with the instrumentality of information and communication technologies, their location notwithstanding. However, there are myriad of gains accruable from the existence of Information and Communication Technology (ICT) in Africa, especially in the realm of rural development. It is also evident that there are challenges inherent in their use. This article x-rays the role of ICTs in rural development in Nigeria, juxtaposing it with their challenges.

Key words: ICT, Rural, Development, Nigeria, Africa

Introduction

Information and Communication Technology (ICT) is a compound or generic term that envelope all the modern improvements in the area of communication (Michael and Iwokwagh 2007, p.36). Crowder van, et al, cited in Asadu, (2009, p.83) defines ICT as "a range of electronic technologies which when converged in new configurations are flexible, adaptable, enabling and capable of transforming organizations and redefining social relations". Communication and Technology involves the application of electronic equipment, especially the computer and telecommunication in gathering, analysis, storage, retrieval and transmission of information as part of man's effort to find solution to the multifarious problems he is facing (Asadu,2009,p.83).

Information and Communication Technology (ICT) can also be described as a revolutionary advancement in communication, possessing possibilities far too numerous to count. It creates a next door effect whereby distance is completely exterminated and far reaching possibilities are brought to our reach (Amodu, 2007, p.9). He notes further that the introduction of ICT into any sphere engenders unprecedented level of transformation.

Information and Communication Technologies (ICTs) are made up of several forms of communication. These include the use of computer, radio, TV, Telephone, the Internet, among others. "The most prominent of the manifestations of ICTs is the Internet. The ability of the Internet to maintain open standard for transmitting digitized data-voice, video or text from one computer to another has constituted its single most important reason for success, and thus, needful in rural development (Amodu, 2007).

The Internet, for example, is garnering an industry of its own with a lot of resources accruing to and from it. Rodney, (2005,p.144) defines the internet as a potentially powerful vehicle to mitigate and ultimately change social dynamics, an empowering and engaging means for personal exploration and expression, and a medium that enables one to one communication. The Internet does not only allow one to one communication but one-many, many-many e.t.c.

Awake (2009, p. 3) observes that from cell phones to computers to television, technology has found its way into every corner of the world even crossing the divide between the rich and poor and has become a part of life for many. The pervasiveness of technology is perhaps most apparent in the proliferation of cell phones, many of



which are no longer just phones. Advanced models enable users to access the internet, send and receive e-mail and text messages, watch TV, listen to music, take photos, navigate by the Global Positioning System (GPS).

Today, ICT is the order-of-the-day, such that even children are becoming heavy consumers of the Internet to the extent that the major campaign today has shifted to parents to ensure that their children/wards exposure to new media technologies are monitored. This is because at any given moment, millions of youths are online, whether at home, at school, at a friend's house, or if they have internet access on a hand held **device** or cell phone almost anywhere, and they may even know how to keep you in the dark about their online activities (*Awake*, 2008, p. 3).

However, the advanced countries have used the existence of ICT as a platform for enhancement of several spheres of their endeavour while their counterparts in the developing countries are yet to adequately utilize the gains derivable from ICTs.

Nworgu, (2008, p.191) states that "it is a painful fact that in the face of avalanche of information suffocating the information highways and super high ways, the less developed countries of the world still lack access to information that is vital to their lives and livelihood".

Corroborating the above, Hall, (cited in Rodney 2005) explains the proportion of Africa and the entire world utilization of the ICT and its technicalities thus:

In many parts of the world, especially in Africa, little movement has been evident over the past two decades. Africa has just 3% of the world's TV sets, 2% of the world's daily newspapers, and 6% of world radio receivers. These proportions are scarcely changing as the world's richer countries push further ahead in the technological race (p.145).

To further present this fact in a clearer perspective, Ogunsola (cited in Nworgu, 2008) observes that the availability and use of ICT in Africa is at its slowest speed hence, Africa has 13% of the world population, but only 2% of the world telephone lines and 1% of internet connectivity, measured in terms of number of internet hosts and the internet users.

Information and Communication technology (ICT) has been seen as a platform for advancement and survival in the workplaces in Nigeria and Africa as a whole. Shittu, et al, (2008, p. 29) observes that Africans perceive ICT as basic tools for survival, which increases efficiency in the workplace as well as facilitates easy and speedy communication.

Information and Communication Technology (ICT) is in affinity with the concept of the world being a global village, indicating that the world is now a place where a lot of people are communicating all the time, such that a good chunk of the world population is involved in the process, thereby creating an advancement in the communication sphere with the generality of them becoming aware of the fact that the world is a common and little place that is covered in a split second with the technicalities of ICTs.

As a result of the foregoing, therefore, Baran chronicles the positions of foremost progenitors in globalization, Mcluhan and Gibson thus, "Global village is an exciting place, a good place for people enjoying increased contact and increased involvement with one another aided by electronic technology, it is about electronic technology turning us into distinguishable non individuals, rallying around products..." (Baran 2009, p.299).

As a result of the unavoidability of the ICT in today's events and man's existence, most developing countries have started adopting the totality of its workability for transaction, information, storage and acquisition of salient data. In Nigeria, for instance, "Nigeria Federal government has since 2000 accelerated ICT development projects in the country. The Nations' Information Technology (IT) policy and an implementing agency, the Nigerian Information Technology Development Agency have been established. The country launched the NIGERIA SAT 1 Satellite into space in 2003 (Shittu, et al, 2008, p.29). Nigeria launched SAT I for environmental monitoring as well as communication satellite.

This particular scenario is prevalent across the African landscape, as most African countries are in various processes and stages of the advancement of the ICT in their domain, with the aim of achieving results. Most government agencies and parastatals are online; offering services pertaining to e-governance. Today through the various IT policies of African nations, ICTs can and is been used for health care improvement and delivery, improvement of information dissemination strategies, research development as well as rural development.

Importance of Information and Communication Technology

Computers, for example, spare us tedious task, enable us to buy and bank conveniently online, and help us keep in touch with others by e-mail, voice mail or video link. With the computer, a lot of tedious and herculean tasks are reduced. For instance, at the convenience of our personal computer or laptops, we can transact business and interact with different people which ordinarily would not have been possible (Awake, 2009 p.4). They note



further that prior to now, family members went their various ways in the morning and would not speak to one another again until evening, but now, "70% of couples in which both partners have cell phones contact each other dearly just to say hello, 64% contact each other to coordinate schedules, and 42% of parents contact their children using cell phone".

Instructively, information and communication Technology (ICT) provides irresistible platforms for quick information dissemination. Information sent out is received simultaneously. This is achieved via the instrumentality of ICT. Rodman, (2006, p.297) explains that "digital communication would be most accurate and reliable than analog, because a message converted into digits could be sent without distortion. As long as the full text of digits arrived at the destination, the message received would be an exact copy of the message sent". Thus, ICT development has miniaturized the communication process, such that it is easier to access.

Similarly, ICT promotes interactivity in the communication process. In course of communication, there comes a wide gap that is closed and this tremendous closure of gap is enhanced by the fact that interaction among two or more communications are in progress. Obviously, this high degree of interaction that is garnished with tremendous success could only be achieved with the aid of the Information and Communication Technology (ICT). Aina, et al, (2008,p.104) observe that "Computer conferencing systems typically include not only e-mail and bulletin boards but also many-to-many communications, by allowing all participants to join topics and enter comment on subject being discussed. This is interactivity re-echoed". Today, these interactive capabilities are also made manifest in social media platforms where openness, collaboration, participation and connectivity are the other of the day.

In the same vein, Information and Communication Technology enhances textuality in communication. It implies that as a result of ICT, information electronically initiated end up coming up in hard copy. That is, interactions that happen electronically are produced in hardcopy for distribution, which enhances further readability by those who were not directly involved in the interaction that took place. Hardcopies could be produced in the city and distributed to the rural dwellers. Perhaps, in an organized programme aimed at sensitizing them on a particular aspect of life. The growth of ICT promotes confidentiality, to the extent that you are known for your information. This is achievable by the fact that information emanating from a source as confidential would be treated as such. To do this, the originator of the information uses a particular code to store the information, especially if it is not for the consumption of everyone. When such information is required, the progenitor of the information is approached.

More than anything else, ICT encourages interdependence among people of various background, opinion and interest. Thus, due to ICT, professionals have a free market place of ideas, where these professionals can ascertain the latest information in their various professional callings. Hence, in appraising ICTs growth, Nworgu, (2008, p.192) asserts that "Communication technologies have encouraged interdependence among professors, institutions and countries. Many important factors have increased interdependence. They include new developments in science and technology, especially computers and the growing sophistication of information software which have speeded up communication"

Information Communication Technology (ICT) and Rural Development

Oladipo (cited in Mojaye, 2007, p.76) define development as a process of economic and social advancement which enables people to realize their potentials, build self confidence and lead lives of dignity and fulfillment". Moemeka (2007,p.7) sees development as "a positive change from conditions that are no longer good enough for the goals and aspiration of a society to those that are most likely to meet those goals and aspiration.

Consequent on the huge track record set by ICTs and the Internet in particular, it has been generally concluded that the same order of substantial success can be achieved in the area of development in rural Africa (Amodu, 2007, p.9). He notes further that ICT bridges the gap between development professionals and rural people through the initiation of interaction and dialogue. They also believe that the Internet as part of the ICTs can foster new alliances and interpersonal networks together with literal and cross-sector links between organisations.

According to Akeredolu-Ale (1993, p.32) rural development is grouped into two conceptions thus:

- -Remedial conception and
- -Dynamic or transformational conception.

By the remedial conception, rural development is seen as an initiative whose primary objective is the alleviation of poverty. In this case rural development is aimed at identifiable target groups among the rural poor. By transformational conception, rural development is perceived as a more comprehensive concern, both in terms of its target and in terms of its programme orientation. Thus, rural development is aimed at the entire rural sector, even if it entails constituent programme aimed at particular target groups. In this case, rural development is



intended to correct not just the poverty of selected target group, but rural poverty as a structural phenomenon, as well as maintaining relationship between the rural and urban sectors of the economy.

Apart from the foregoing conceptions, the Federal ministry of Agriculture, water resources and rural development in a paper presentation, see rural development as strategies designed to improve the economic and well being of Nigerians in the rural communities by extending the benefits of development to the poor and indeed, the small scale and subsistent farmers and other rural dwellers. This is because, over 75% of Nigerians live in the rural areas and because of this large proportion, the success of development programmes would depend on the importance attached to this rural populace and on efforts being made towards solving their economic and social problems.

The dominant view by scholars is that development must be people-centered for it to be effective. "Development must be of the people, by the people and for the people" (Soola, 2012,p.15). A people-centered or participatory approach to development planning and management involves people's active participation in decision making on issues that pertain to their livelihoods and interest (UNDP 2006, 65) they note further that such participation help people to realize their potential and play an active role in the social and economic transformation of their different communities.

Information and communication Technology (ICT) can automatically be used as a catalyst for rural development, especially in developing countries of the world and Nigeria in particular. But, this aspiration cannot be achieved except the generality of the populace in the rural areas are integrated through trainings and taught how the packages can enable them solve specific problems.

Therefore, ICT/Internet must be used in a decentralized manner for it to be effective and relevant to development generally. The bottom line of the foregoing is that those in the developing countries should be encouraged to participate to enable them appreciate themselves on the present realities, which abound via ICT in all sphere of life's existence.

Providing targeted training opportunities for rural dwellers on how to make use of such communication technologies, making Cyber cafes available in strategic points in rural areas in Nigeria so that the ruralites can use them at subsidized rates or even free of charge, in which case government can offset the bills will foster rural development and facilitate the change process. Creation of programmes using the local language of the target communities should also be considered as this will not only proof successful but will give the people a sense of belonging (Nwabueze and Nwabueze, 2007 p.174).

Arising from the need for participation in rural development by the rural dwellers, Asadu (2009:36) used a paradigm which he referred to as the participation communication approach. This paradigm hinges on the subjugation of the developing countries. He maintained, citing Inagaki that populace should be integrated or encouraged to take part in the developmental process of their place rather than copy from the 'developed' world. This indicates that Inagaki abhors master – servant relationship playing out among developing and developed nations in terms of modernization paradigm.

Above all, participatory communication is that type of communication in which all the interlocutors are free and have equal access to the means to express their viewpoints, feelings and experiences, collective action aimed at promoting their interest, solving their problems, and transforming their society, is the means to an end (Bondenave 2006,p.44; Asadu, 2007,p.36).

Therefore, in the rural areas and for rural development to thrive, the people must be abreast and carried along on every step to take. When this is the order-of-the-day; then information and communication technology will be extensively used for advancement of rural development in Nigeria and beyond.

Information and Communication Technology (ICTs) also stimulates economic growth and reduce ignorance. In the agricultural sector, ICT can provide information that can lead to food security; assist in poverty alleviation; provide information on health matters and trade facilities including online banking. Information as the key drives excellent performance in e-banking channels such as ATM, Pos and cards; direct customer feedback on e-banking services and products and public awareness. Therefore the benefits of the cataloged roles in the banking and business industries are also enjoyed by rural people, hence promoting development in the rural areas (*Punch* October 28, 2007). The rural dwellers will improve their knowledge on health, agriculture education business to mention but a few.

However, it is only persons who are able to find relevance in terms of the value that they add in that context that will have competitive advantage (*Punch*, 2007, p.34). For instance, Professionals like doctors in the rural areas of Nigeria can enhance and develop themselves through interaction or information gathered from colleagues' national or internationally. The information may come from telephone interaction, the Internet, teleconferencing, Satellite etc. When this information is garnered by these professionals the results and benefits would be shared by all and sundry in such rural area.



To Odion, et al, (2008, p.81), ICTs promotes information enhancement. Just like every other person in the developed world keep abreast of information through online newspaper websites, rural dwellers can also do the same without waiting for papers to get to them before they are informed.

Furthermore, even though, in the rural setting of Nigeria, a lot of setbacks are recorded, the fact still remains that the ICTs have become a strong platform for expansion of horizons and experiences; hence, Baran (2004) maintains; "It is about electronic technology turning us into indistinguishable non individuals, rallying around products. We are united by buyable things, identifying not with others who share our common culture but with those who share common goods... The new technologies are expanding our experiences". Dominick (2007, p.276) affirms that new media technologies have opened up new ways of doing things that were not possible before: blogging, file sharing, looking for a companion, rafting a product, and so on".

However, electricity plays a vital role to the functioning of almost all the information and communication technology anywhere in the world. To achieve rural development therefore, electricity among other basic infrastructures that will engender rapid development must be put in place. Until this is done, meaningful development in the rural settings of Nigeria and others would be difficult to attain.

To give credence to this, Wilson (2008, p.2) opines that human development is today powered by the driving force of technology which is largely regarded as a critical sum in our drive towards development. The poor state of our infrastructures and our abandonment of the obligation to think for ourselves has contributed, largely to our stunted growth.

The rural dwellers or the development communicator also need to be trained on how to combine ICTs and traditional media in embarking on development-oriented communication capable of mobilizing rural dwellers for development activities. This is necessary in order to ensure that lack of technical-know –how on how to effectively utilize these facilities would not act as a stumbling block to the entire development process (Nwabueze and Nwabueze, 2007 p.174).

Challenges of Information and Communication Technology (ICT) in Rural Development

Undoubtedly, information and communication technology (ICT) have offered a great deal of opportunities for the teeming beneficiaries, but not without salient hiccups, which makes it impossible for the rural populace to benefit. More striking is the backwardness of the developing countries, which trickles down to the rural dwellers and development. According to the World Bank report on the developing countries, it is clear that the sub Saharan African are at the lowest ebb in terms of general development, compared to their counterparts in the developed countries of the world. To explain this down-turn, it is important to state that the developing countries need to put their house together to catch up with the developed countries, considering the myriad of obstacles that require urgent attention. Nworgu (2008) succinctly chronicles the ills in the developing countries which have left them copiously at the divide thus:

There are several obstacles on the way of less developed countries joining the rest of the world in reaping the abundant benefits of the present information age. Such problems include lack of security in safeguarding inequity; lack of awareness of the need for ICTs use, high cost of internet browsing; fear of unemployment due largely to undiversified economy; low level of professionalism and lack of strong regulatory body... corruption is a worldwide phenomenon, but its negative effects on the socioeconomic and political development of any nation is felt more in the less developed countries of the world. (p.195)

As a matter of fact, literacy has continued to be a major setback to the growth of ICT in developing countries like Nigeria. Most Nigerians are illiterates and do not have the well withal to understand the use of ICTs for accessing information that will no doubt, enhance their lives. Some of the literates are so hungry and poor that they cannot afford any of the ICT facilities.

Jeno, et al (2008) agree with the above and explain that more than 850 million people in developing countries are excluded from a wide range of information and knowledge, with the rural poor in particular remaining isolated from both traditional media and new information and communication technologies which would improve livelihood.

Asadu, (2009, p.86) enumerates the problems of ICT in rural area viz;

- Commercialization
- Digital divide
- Network break down



Commercialization here implies that ICT are left in the hands of the private sector, which leaves the poor in a marginalized state, thereby isolating the poor from enjoying the opportunities that abound in the sector. ICT facilities Internet are very costly especially in developing countries most of the facilities exist in urban areas and difficult to use or access by the poor. If ICT is not made a free market place of idea by establishing it in an accessible place where everybody can use of it, it can, therefore, be said that ICT is far from encouraging rural development.

Digital divide is the imbalance playing out in the access to the ICT facilities between two groups of internet users, as a group has access, while the other does not. Hence, Emenari, (2004:102) says "the gap between African countries like Nigeria and developed world remain too wide". Instructively, Asadu, (2009:88 citing United Nations Administrative committee on universal Access to Basic communication and information services states that most developing nations are not benefiting from the communication revolution due to lack of the following:

- Affordable access to core information services, cutting edge technology and sophisticated telecommunication system and infrastructure;
- The capacity to build, operate, manage and service the technologies involved;
- Policies that promote equitable public participation in the information society as both producers and consumers of information and knowledge;
- A workforce trained to develop, maintain and provide the valve –added products and services required by the economy.

He notes further that another major problem to the use of ICTs in the rural areas is the lack of electric supply and incessant power outages where electricity exists (Asadu 2009, p.89; Nwabueze and Nwabueze, 2007, p.174).

Above all, the case of network breakdown is a reoccurring decimal. The incessant occurrence destabilizes the cyberspace, as it is referred to noise, which distracts people. Strictly, networks are not re-enacted for either minutes or hours, thus forcing users to abandon their already initiated discussion or information surfing half way.

Conclusion

From the foregoing, it is evident that the role of information and communication technology (ICT) in rural development efforts cannot be overemphasized. Nigeria have benefited from the emergence of Information and Communication Technologies (ICTs) through interaction with other people from other parts of the globe, for instance through ICTs health, education and agriculture has improved.

In Africa, like in other continents of the world, less developed nations are still lagging behind in terms of these technologies, thereby adversely affecting them, especially those who live in the suburbs or hitherland, who are not abreast with information and technological advancements.

Due to the deep rooted posture in corruption and other maladies associated with governance in Nigeria and most African countries, rural development programmes are not easy to come by and the gap occasioned by non-existence of ICT facilities in Nigeria's rural communities continue to exist. Until this is addressed, the possibilities of taking the required development to the rural populace will be unrealizable.

Basic facilities must be put in place for ICT to engender the desired development in rural communities. Relevant agencies of government should also ensure that creation of ICT centres in rural communities are canvassed and appropriate trainings given to rural dwellers. This will definitely engender development in the rural areas.

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