
Applications Of Information And Communication Technologies (ICT) On Sustainable Economic Development In Nigeria

By

ANDREW UKAVWE

*Department of Economics,
College of Education, Warri)*

Abstract

The level of development of any nation is highly connected with the literacy level of its citizens. Although Nigeria is blessed with abundant natural and human resources, the level of development is still slow because its methods of pursuit of the developmental goals are rather rigid and outdated. Information and Communication Technologies (ICT) is a quick and reliable method of achieving the developmental goals of any nation. The paper focuses on the impact of ICT on sustainable economic development in Nigeria. It pointed out the factors responsible for underdevelopment in Nigeria and suggested ways in which ICT can be used to reduce these factors and facilitate sustainable economic development.

Introduction

The issue of development has attracted the attention of scholars in development studies especially in the areas of what constitutes development and what quantities make a country to be considered developed. With the developing countries, their major concern is how to improve on the standard of living of their teeming population living in abject poverty. The realization that majority of the people are poor and that they have no alternative but to reduce the poverty level, has forced most countries and individuals to adopt methods and policies to achieve some measure of development. However, in the process of adopting these measures, a lot of damage is done to the environment. The mindless exploitation of the environment does not put into consideration the survival of future generations. The action of man therefore is interpreted to mean an exhaustion of resources for the future; which may lead to serious economic problem in years to come. The need to reduce the degree of exploitation today or make provision for future generation has led to the concept of 'sustainable development'. The emphasis of this concept is the exploitation of resources to ensure and sustain welfare for those who live now and preserve environment for future generations.

Sustainable economic development is imperative for Nigeria because of the peculiarities of the country. So, any serious headway in sustainable economic development in Nigeria in the 21st century must have addressed the following issues (Baldwin, 1996). Poverty, human resources development, crime and social problems, re-education for our leaders and followers, and land degradation, deforestation,

The Coconut

desertification and drought, excessive population growth, urbanization and urban decay, external economic pressure, multinational; activities, pollution and biodiversity.

These problems are challenges to the country's effort towards development. They are impediments because of their direct linkage to production and distribution of resources in the process of carrying out social and economic activities in the society. The zeal to eliminate poverty or the quest to achieve some level of development by the Nigerian government and people, result in actions, which have negative effects on the environment. Most species of non-human organisms, aesthetic nature and the atmosphere are gradually being reduced by the damage and this will pose as a detriment to future generations without any serious and conscious effort at injecting back or replacing what is being taken from nature appears to be endangered by the activities of development.

The major challenge in Nigeria is how to sustain the development of the nation economically now, and sustain in future. However, for a nation to realize the goals of economic development, it must harness and optimally utilize its human and natural resources for the achievement of this purpose. Hence, human investment, human capital development and effective communication especially in the area of education are of paramount importance in order to acquire and transfer the desired technical or technological skills needed to bring about the economic development.

In this regards, Information and Communication Technologies (ICT) is one tool that has been found very effective in the dissemination of information and useful training of personnel that will together enhance sustainable development. This paper focuses on the application of Information and Communication Technologies on the economic development of Nigeria.

Conceptual Clarification Sustainable Development

There are various conceptions of "sustainable development" (Staley,1994). However, consensus is emerging among economists that sustainable development entails the maintenance of a no- declining per capita human well-being or utility over time (Pearce et al, 1990). Here, the basis for sustainable development is the maintenance of utility and not temporal efficiency, as demonstrated by Yesufu (1996) since the latter is characterized by declining utility ultimately.

Eregha (2000) defines sustainable development as that development that meets the needs and aspirations of the current generation without compromising the ability of future generations to meet their own needs and aspirations.

Economic Development

According to Buba (2005), Economic development is multi-dimensional in nature because it is an embodiment of several variables that determines the level of welfare of the people within a society. This multi-dimensional nature of economic development makes it difficult to subject it to any precise definition. According to Wikipedia (2002) economic development is a sustained increase in the economic standard of living of a country's population, normally accomplished by increasing its stocks of physical and human capital, and improving its technology. The standard of living is stated in terms of jobs, income, and improvement in human development, education, health choice, environmental sustainability, investment opportunities, and equal of opportunity e.t.c.

Information and Communication Technologies (ICTs)

Emadu and Asann (2004) define ICT as the technology of gathering, processing, sharing, distributing and communicating vocal, pictorial, numerical and textual information through computer networks. Emadoye (2002) defines ICT as computing and telecommunication technologies that provide automatic means of handling information. While Ugah (2005) defines ICT as electronic-based technology generally used to collect, store, process and package information as well as provide access to knowledge.

All the definitions, point to the fact that ICT is the application of computers and other technologies to the acquisition, organisation, storage, retrieval and dissemination of information. The major components of ICT are:

- i. Print Media(Newspaper, book, Journals, Magazines etc);
- ii. Electronic Media(radio, television, videos etc);
- iii. Computers;
- iv. Telephone; and
- v. Communication Networks.

Factors Responsible for Economic Underdevelopment in Nigeria

Nigeria is a country that is endowed with so many human and natural resources that can be readily harnessed for its economic development. It has a labour surplus with an estimated population of over 140 million people. But these resources are left untapped hence the economy is still poor. Some of the factors responsible for the underdevelopment of Nigeria amongst others are:

- low levels of property;
- high rates of population growth and dependency burdens;
- high and rising levels of unemployment and underemployment
- significant dependence on agricultural production and primary produce for exports;
- dependence and vulnerability in international relations;
- poor housing condition;
- high and unacceptable level of illiteracy;

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- high infant mortality and short life expectancy;
- extremely poor medical facilities;
- very low per capita income;
- non-functional social services;
- high level of corruption; and
- low level of political participation.

Applications of ICT on Sustainable Economic Development

Even with the problems and challenges already listed, Nigeria still has the capacity to translate from a developing nation to a developed nation if these resources are properly put to use. These can easily be addressed by adopting the method of solution that was used by some developed nations of the world.

According to Emadu and Asann (2005) “for Nigeria, the rise of Information and Communication Technology is an opportunity to overcome historical disabilities and once again become the master of one’s own national destiny. ICT is a tool that will enable Nigeria to achieve the goals of becoming a strong, prosperous and self-reliance nation.

In the developed countries of the world the basis for achieving success is their reliance on ICT. ICT can be applied in the following ways:

ICT in Education

Illiteracy has been found to be the major hindrance to economic development of Nigeria. More than 60% of the Nigeria’s population are illiterate (Buba, 2005), and therefore do not possess the basic educational skills of literacy to transform the abundant natural resources into goods and services. Distance education can be made possible by the use of ICT tools such as the computers, telephones, television etc to exchange information between urban-rural areas and across countries through the Internet and other communication media.

ICT in Entrepreneurial

Traditional method of trading is gradually fading away because of its deficiency in reaching only limited customers and yielding less profit. With e-Commerce i.e., the use of ICTs in trading, more customers can be reached, more products are sold, more ideas in business are gained and hence more jobless people are employed.

Therefore, for entrepreneurship to thrive in Nigeria, there must be strong links between business and education, technology-based mechanisms that will encourage people to learn relevant business skills.

ICT and Human Capital Development

Unemployment is high in Nigeria because of low rate of self-employment. According to Ugah(2005), development of human capital involves more than what goes on in the learning institutions or the workplace. People of all kinds need stepping tones and progression routes into training and education. But due to the fact that these training are only available in the urban areas, people living and working in places that are socially and economically disadvantaged (remote areas) can benefit from outreaches through the use of ICT (Internet).

ICT and Job Creation

ICT can create employment in two ways. First, information on employment opportunities can be obtained via the Internet. Secondly, Internet and other communication media have provided job opportunities for the people who engage in the delivery of its services. For example, ICT creates Job for; cyber café workers, software and hardware engineers, those who sell and maintain computer and GSM hardwares and computer operators e.t.c.

ICT in Good Governance

E-Governance focuses on improving government processes, connecting its citizen and building interaction with and within civil society. All these can be made easy through the use ICT facilities. Emadaye (2002) stated that computerization of government functions would produce correct figures required for planning and budgeting.

ICT and Healthcare Information

Most health problems in developing countries of the world linger not because of lack of cure and solutions, but due to the lack of Information and discovered treatments and cures. ICT can enhance research findings, health information sharing and drug availability for certain sicknesses and diseases. One of the objectives in the Nigeria National Policy of Information Technologies is the establishment of ICT specifically in the combat of serious national health threats such as HIV/AIDs, Leprosy, physical disabilities, e.t.c.

ICT and Environmental Protection

ICT can help to protect our environment in several ways.

- i. Information on the history of a particular environment obtained during Environmental Impact Assessment(EIA) can be stored in a computer database and retrieved when required for decision making;
- ii. Such information can be made available globally via the Internet thereby educating incoming investors on the suitable investment in such a place.
- iii. Such information can be used by government for planning, and infrastructural development.

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The Challenges of ICT in Sustainable Economic Development of Nigeria

The challenges of using ICT as tool for economic development in Nigeria are:

- i. Poor electricity power supply;
- ii. Unavailability of national ICT infrastructure;
- iii. Insufficient qualified ICT personnel in our institutions;
- iv. Poor implementation of ICT Policies;
- v. Security problem;
- vi. Poor funding etc

Conclusion

ICT is a veritable tool that can be used to promote sustainable development of the Nigeria economy. Nigeria's abundant human and natural resources serve as a vehicle for economic development. It therefore needs to invest heavily in the education of its citizenry to achieve a literate workforce that will harness these abundant resources (and potentials) into tangible developments. Effort is made in this paper to pinpoint some of the areas where ICT can bring about sustainable growth and development in Nigeria. The paper highlighted the challenges of the use of ICT in sustainable economic Development and the suggested solutions to the challenges. However, with proper implementation of ICT Policy in all sectors of the country, sustainable economic development will be achieved in the nearest future in Nigeria.

Recommendations

This paper examined some major areas where ICT should be applied in order to achieve the long-awaited sustainable economic development in Nigeria. In order to achieve these, the following recommendations are made.

- a. Government should train all of its employee on the use of ICT and encourage the private sector to follow suite in order to promote computer literacy amongst all workers.
- b. Government should computerize all its functions and encourage the private sector to do the same.
- c. Government, non-government organization (NGO), private companies and humanitarian organization should help to provide ICT facilities and training to Nigerian citizens.
- d. Computer literacy programs should be included in all school's curriculum and be implemented with utmost sincerity.
- e. Internet centres should be cited in all villages, cities and towns at subsidized or low-charged rate in order to promote computer literacy of all citizens.
- f. Computer literacy awareness campaign should be carried out in all rural and urban communities in Nigeria.
- g. The Federal Government of Nigeria should embark on total rural-urban area electrification project to ensure that Power Holding Company of Nigeria (PHCN) provides constant electricity power supply to all parts of the country.

Applications Of Information And Communication Technologies (ICT) On Sustainable Economic Development In Nigeria- **Andrew Ukavwe**

- h. The Federal Government of Nigeria should put in place efficient National ICT infrastructure (i.e. satellite, Internet, microwaves, and national data and information base) centres where ICT personnel can be trained.
- i. The Government should ensure that the implementation stage of government policies is properly monitored to ensure success.
- j. The government should provide adequate security measure to protect ICT infrastructures.
- k. The Government should provide adequate funding for the implementation of ICT programmes.

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