

Analysis of the uses of information and communication technology for gender empowerment and sustainable poverty alleviation in Nigeria

Obayelu A. Elijah
University of Ibadan, Nigeria

Ogunlade, I.
University of Ilorin, Nigeria

ABSTRACT

This study presents information and communication technology (ICT) as a phenomenon that fits into the globalization project of empowering gender and sustainable poverty alleviation in Nigeria. Poverty amid plenty is the greatest challenge facing Nigeria. Men and women in poverty use diverse coping mechanisms conditioned by their access to various support systems. While women traditionally have access to the family network, the men utilize public and community systems, from which women are excluded. Hence the social dimension of poverty is largely a gender issue and gender is a key issue in the ICT profession with the greatest weight of poverty been borne by women household heads and children from poor homes.

This article is a descriptive analysis of the use of ICT for gender empowerment and sustainable poverty alleviation in Nigeria. It describes the roles that ICTs have played in the lives of the poor and the ones yet untapped in Nigeria, and how ICTs can assist women in addressing the chronic issues of widespread poverty. The result of the study using Likert rank order scale shows unemployment, income inequality, polygamy, business failure, sickness and environmental degradation as the main causes of poverty in Nigeria and sustainable poverty alleviation is unlikely to be achieved without the proper use of ICT. Using ICTs to support poverty reduction is found to be possible, practical and affordable if Nigerian government acknowledges its role as a major employer and user of ICT beginning with a development commitment that targets poverty alleviation. In addition, the development and access to social networks through low-cost ICTs, telecentres will enhance timely access to accurate and reliable information by the poor. ICTs will not only empower the gender but sustain poverty alleviation programmes which in time past have failed in Nigeria through provision of new and enhanced opportunities for participation in the process of self-determination, economic, social, educational and cultural advancement and employment beyond the scope of traditional institutions and any forms of governance.

Key words: *Information Communication Technology (ICT), Gender, poverty, sustainability, usability and Nigeria*

INTRODUCTION

Poverty means different things to different people¹. It is a hydra-headed concept, hence conceptualized in different ways in the literature. On a wide dimension, there is poverty when a household or an individual is unable to meet what is considered as a minimum requirement to sustain livelihood in a given society (Ogwumike 2001). Poverty is painful. The Poor suffer physical, emotional and moral pains (Deepa et al, 2000), live without fundamental freedoms of action and choice that the better off take for granted (Sen., 1999). They often lack adequate food and shelter, education and health deprivations that keep them from leading the kind of life that every one values. They also face extreme vulnerability to ill health, economic dislocation, and natural disasters. And they are often exposed to ill treatment by institutions of the state and society and are powerless to influence key decisions affecting their lives. These are all dimensions of poverty (World Bank, 2001). A hungry man that is fed at a particular time has not been delivered out of poverty. A person that is alleviated from poverty must be empowered/helped to permanently overcome poverty rather than just for sometime. This could be done by helping him or her to: secure a sustainable job², acquire skills that would be enough to provide regular source of earning and actively contribute towards the national productivity level

The Nigerian paradox has continued to baffle the world because the poverty level in the country contradicts the country's immense wealth as over 70 percent of the people wallow in absolute poverty with no food, clothing or shelter (Oshinonebo, 2002). Academic studies on ICTs³ and society show that there is a range of issues, which make it clear that the Information Society like any society will have winners and losers, beneficial consequences of ICT and harmful applications. A review of these academic studies shows that there are no simple and straightforward effects of ICT on society. Most effects are multiple and contradictory (Spears and Postmes 2000, Mansell and Schenk 1998; Mansell and Wehn 1998; Garson 2000; Sharpe 2000; Wyatt and Henwood 2000; Rommes 2002). ICTs are seen as a critical resource in the promotion of socio-economic development, with a potency to alleviate poverty⁴ (Gopalakrishna, 2005). The ICT professions have constituted a privileged research area for understanding the relationships between skills and work organisation. It does not only lead to a close relationship between technology and skills, but to organisational changes such as: flat hierarchies, project work, multi-skills teams, continuous skills update, flexible and extended working time patterns, customers' pressure, etc (Valenduc and Vendramin, 2005). Combinations of social and human capital are also emerging in the knowledge and "networked" society. But many people in developing countries like Nigeria especially the poor in rural areas who are still struggling to address their basic human needs, the endemic problem of poverty, illiteracy etc believe that ICTs are making no difference to their lives. Supported by this finding is the World Bank Report (2005) that states that unlike in other services, ICTs are also failing poor people in many ways. In the light of this, it is imperative that we address the following questions: How and in what ways can ICTs help poor people⁵ and those who are socially excluded? How can ICT-based development strategies and policies be made more accountable to the special needs of the disempowered? What are the connections between ICT and the government anti- poverty measures? What are the areas that are likely to create opportunities for the use of ICTs where they have the maximum potentials to benefit the poor? These questions serve as an impetus for the present paper.

Objectives of the study

The main objective of this study is to describe the uses of ICT and gendering for sustainable poverty alleviation in Nigeria. The specific objectives are

- 1 To examine the causes, incident, depth and severity of poverty in Nigeria and government efforts at addressing the problem;
- 2 To examine gender⁶ roles and level of involvement in poverty distribution in Nigeria;

- 3 To state the ways in which ICTs can be used in the enhancement of social and economic livelihood of people in Nigeria;
- 4 To describe the uses of ICT by women as primary strategy for poverty alleviation;
- 5 Finally make policy recommendations based on the findings of this study.

METHODOLOGY

Study area

Nigeria is the single largest geographical unit in West Africa. It occupies a land area of 923,768 square kilometers situated between longitude 3⁰ and 15⁰ East, and latitude 4⁰ and 14⁰ North (CBN, 2000). She lies entirely within the tropics with two main vegetation zones the rain forest and savanna zones; reflecting the amount of rainfall and its spatial distribution. The wet and dry seasons are climatically the two major seasons in the country. Nigeria is conglomeration of several ethnic groups, with three major dominant tribes. Hausa, Ibo and Yoruba domiciled mainly in the North, Southeast and Southwest of the country respectively. About 250 ethnic groups could be recognized within the country (with considerable differences in the norms and values of each major tribe).

At the start of the 1960s, the basis of the Nigerian economy was a well-diversified agricultural sector that supported 75 percent of the population, provided 68 percent of GDP and 78 percent of exports and supplied the people with 94 percent of their food. Again, per capita income was estimated at US \$90 per capita and GDP growth was rapid at an annual rate nearly 5 percent (see World Bank, 1996). However, a new development pattern gradually emerged (over the years) as agriculture began to stagnate due to the growing burden of taxation. Later rapidly growing industries began to exert considerable influence on the economy, including demands for special protection from imports. This led to a shift in the pattern of industrialization, from the processing of agricultural products for export, towards simple import substitution; as well as the emergence of petroleum extraction as a leading growth sector. However, in the mid-1960s growing regional tensions and the identification of the political parties with rent seeking, ethnic interests and patronage created a climate of arrest and political uncertainty that was compounded by the stagnating GDP growth. The ensuing civil war caused major losses of production. Again, there was a sharp decline in foreign exchange earnings and government revenues attributable to the loss of all on-shore production of oil while foreign exchange was rationed during the war years with a series of increasingly stringent direct and indirect controls.

Indeed, Nigeria is still undergoing a difficult political and economic transition after several years of military rule. The problems include pervasive poverty and widespread unemployment; deterioration of government institutions and inadequate capacity at all levels of government to deliver critical services effectively; sporadic violence between ethnic groups; a legacy of widespread corruption; little growth in the non-oil private economy and limited self-empowerment among local communities. Yet, Nigeria remains a society rich in cultural linguistic, religious, ethnic and political diversity. These constituent parts of Nigerian society each feel aggrieved, in one way or another. The average Nigerian today struggles hard to make ends meet sees himself/herself as being poorer than he/she was a decade ago, and finds it hard to be hopeful that things will get better soon.

Kwara state used for the empirical evidence is one of the 36 states in Nigeria located in the North- Central zone with a total population of about 1,566,469 million people (Nigerian Population Census, 1991) and headquarters at Ilorin.

Types and sources of data

The data used in the study are both secondary and primary data from field survey. While the secondary data were obtained from diverse sources including the statistical bulletins, annual statement of accounts and financial reports of Central Bank of Nigeria, publications of the Federal Office of Statistic (FOS), journals and previous similar studies, the primary data were obtained from a random sampling of 50 men and 50 women in Kwara State, Nigeria as a case study on the causes of poverty. Another sample of 50 operators of mobile phone call centers were randomly selected to know their distribution as well as their reasons for operating such centers, making a total sample size 150 respondents for an empirical investigation. Structured, validated and pre-tested questionnaires were used to collect information from these respondents. Information on the opinion of people on certain statements concerning causes of poverty were obtained from the first 100 respondents, using the five points Likert scale of strongly agree, agree, undecided, disagree and strongly disagree which were scored 5, 4, 3, 2, 1 respectively. The mean scores obtained for each statement were used to determine their opinion (i.e., agreement or disagreement) with the statement. Descriptive statistics such as the use of frequency table, percentage, means were also used in the course of the analysis

RESULTS AND DISCUSSIONS

(a) Causes of Poverty in Nigeria

Understanding the causes of poverty from the stand point of various people and why it persists is essential for effective and appropriate strategies for alleviation of poverty and for social and economics development. This study revealed differences in gender's perception on the causes of poverty in Nigeria. In general, both sex agreed on the main causes of poverty in Nigeria as: unemployment, polygamy, business failure, uneven distribution of income, sickness and environmental degradation. While other were sharp differences in perception between men and women on other factors such as: gender discrimination, bad economy, bad leaders, corruption and overpopulation/lack of family planning, as causes of poverty (see Table 1). Some of these factors are in line with other empirical findings such as Omonona et al (2000) who identified unemployment, inadequate formal education, bad government policy, polygamy and overpopulation among others as factors responsible for poverty using responses of people in Ibadan, Nigeria as a case study.

(b) Analysis of poverty and poverty reduction strategies in Nigeria

The study revealed an increasing widespread poverty in Nigeria as indicated in tables 2 and 3. Table 5 revealed a wide gap between the northern and southern Nigeria in term of poverty head count. The northern zones were consistently ranked first to the third by level of poverty headcount in 1980 and 1985. However between 1992 and 1996, the ranking of geopolitical zones by poverty level was more mixed in terms of north and south divide. In 1996, while the average poverty headcount for the northern zones was 66.9 percent, and that of the southern zones was 67.1 percent. This shows that the poverty headcount in the Northern was slightly lower than that of the southern zones. The convergence was a reflection of the more rapidly worsening poverty situation in the south with an average of 54 percent between 1980 and 1996 compared with an increase of less than 32 percent in the north over the same period.

Table 1: People's perception on the causes of poverty in Nigeria

causes of poverty	S.A		A		U		D		SD		mean score		remark	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Unemployment	39	43	8	6	3	1	-	-	-	-	4.72	4.84	S.A	S.A
Economic recession	7	11	11	14	18	5	9	13	5	7	3.12	3.18	U	U
Poor orientation	8	3	7	11	5	9	20	15	1	12	2.66	2.56	U	U
Sickness	17	27	19	8	-	2	8	9	6	4	3.66	3.90	A	A
Laziness	14	21	16	26	10	2	4	1	6	-	3.36	4.34	U	A
Uneven distribution of wealth	11	30	32	15	6	4	1	1	-	-	4.06	4.48	A	S.A
Financial mismanagement	13	7	16	9	7	14	12	11	2	9	3.52	2.88	A	U
Bad leaders	7	11	4	18	1	8	24	8	1	5	2.32	3.44	D	U
Business failure	11	33	27	16	10	1	2	-	-	-	3.94	4.64	A	S.A
Polygamy	21	37	17	8	3	5	8	-	1	-	3.98	4.64	A	S.A
Over-population	15	12	16	16	6	9	9	8	4	5	3.56	3.44	A	U
Illiteracy	10	11	15	12	7	2	16	14	2	11	3.30	2.96	U	U
Conservation	4	3	10	7	10	11	19	20	8	9	2.68	2.50	U	U
Corruption	16	18	19	17	5	8	8	6	2	1	3.98	3.90	U	A
Gender discrimination	5	12	11	25	6	6	21	7	7	-	2.72	3.84	U	A
Tribal differences	7	15	13	8	3	10	19	13	9	4	2.86	3.34	U	A
Environmental degradadtion	21	19	9	11	6	11	10	9	4	-	3.66	3.80	A	A

Where S A = Strongly Agreed (5); A = Agreed (4); U = undecided (3) ; D = Disagree (2); S.D = Strongly disagreed = 1; M= men's view; W= women's view. Total number (ΣF) = 50 each for both men and women; mean score = $\Sigma \text{rating point} \times \text{observation} / \Sigma F$

Source: Field survey May 2006

Table 2: Poverty level of Nigerian (1980-1996)

Year	Poverty level - % of population	Estimated total population	Population in poverty
1980	27.2	65.0M	17.7M
1985	46.3	75.0M	34.7M
1992	42.7	91.5M	39.3M
1996	65.6	102.3M	67.1M

Source: FOS poverty profile for Nigeria: 1980 – 1996 in draft national policy on poverty eradication (2000)

Table 3: Incidence of poverty in Nigeria 1985-92 (%)

Incidence	National		Urban		Rural	
	1985	1992	1985	1992	1985	1992
Extreme poor (N998)						
Number of poor (million)	10.1	13.9	1.5	4.3	8.6	9.6
Poverty incidence	12.0	13.6	4.9	10.9	16.1	15.4
Poverty depth	4.2	8.5	0.9	6.1	4.2	8.0
All poor (N395)						
Number of poor (million)	36.1	34.7	9.7	11.9	26.4	22.8
Poverty incidence	43.0	34.1	31.7	30.4	49.5	36.4
Poverty depth	15.7	14.7	9.1	12.0	18.9	16.1

Source: Canagarajah, S. et. al (1997)

Table 4: Dimensions of the Digital Divide

Dimensions of the Digital Divide	
Service availability	The services made available through the use of ICTs should be freely available to all who might wish to make use of them.
Awareness	Everyone is aware of how they might be able to use ICTs for their own benefit.
Opportunity to learn and use new media	Everyone has the opportunity to attain computer literacy.
Mastery of technologies	Everyone understands which tools are best suited for which tasks.
Experience	Everyone is able to accumulate sufficient experience with the use of ICTs to enable them to fully exploit their potential.
Skills	Everyone has the right skills for performing ICT related tasks.
Support	Everyone has access to appropriate assistance when they need it to help them make good use of ICTs.
Attitudes (motivation)	Everyone is encouraged to participate in the sharing of benefits available from equal access to ICTs.
Content	Sufficient content is available to enable everyone to gain benefit from ICTs
Cultural	The other dimensions are adapted as required to the cultures of all potential users.
Disability	The other dimensions are adapted as required so that disability is not a barrier to equal enjoyment of the benefits of ICTs.
Linguistic	The other dimensions are adapted as required so that language is not a barrier to equal enjoyment of the benefits of ICTs.
Gender	The other dimensions are adapted as required so that gender is not a barrier to equal enjoyment of the benefits of ICTs.
Empowerment of civil society	Structural, political, and governance factors do not impede equal enjoyment of the benefits of ICTs.

Source: Roger Harris (2002): ICT for Poverty Alleviation Framework

Table 5: Nigeria Poverty profile, 1980-1996

Poverty by occupation of Household Head				
Poverty Headcount (%)				
	1980	1985	1992	1996
Professional/				
Technical	17.3	35.6	35.7	51.8
Administration	25.0	25.3	22.3	33.5
Services sector	21.3	38.0	38.2	71.4
Farming	31.5	53.5	47.9	71.0
Manufacturing	12.4	31.7	33.2	49.4
All	27.2	46.3	42.7	66.9
Distribution of poverty among farming and non farming population and between rural and urban areas				
Farming	31.0	57.0	14.5	28.3
Non-farming	18.0	36.0	37.8	51.4
Urban	14.5	36.0	37.5	46.0
Rural	28.3	59.0	58.2	69.0
Nigeria: poverty headcount (%) by geographical zones				
North- East	35.5 (2)	54.9 (1)	54.0 (1)	66.7 (4)
North- West	37.6 (1)	54.1 (2)	36.5 (6)	68.0 (1)
North –central	32.2 (3)	50.8 (3)	46.0 (20)	66.1 (6)
South-east	12.9 (6)	30.4 (6)	41.0 (40)	67.7 (2)
South-West	13.3 (4)	38.6 (5)	43.1 (3)	66.9 (3)
South-south	13.2 (5)	45.7 (4)	40.8 (5)	66.6 (5)
All Nigeria	27.1	46.3	42.7	66.9
Distribution of poverty according to gender of household heads				
Household head				
(male)	27	47	43	68
female	29	39	40	60

Source: FOS (1999): Nigeria Poverty profile, 1980-1996

Table 6: Poverty incidence and crop mix, 1996 (%)

	Non- poor	Moderately poor	Extremely poor
Food crops	25.02	29.40	45.58
Export crops	22.73	31.82	45.45
Food and export crops	30.55	34.07	35.38
All farmers	23.19	28.75	48.06

Source: FOS (1999): Poverty incidence and crop mix, 1996

Table 5 showed that poverty is a serious threat among the farming population in the rural areas of Nigeria. The level of poverty in the farming population was consistently higher than that of the non-farming population and it was also higher in the rural than the urban areas. Further analysis from the table shows that households headed by farmers consistently experienced the highest level of poverty (compared to the other occupation groups and the national average) in each of the years, except 1996 when the level of poverty was marginally lower (71.0 percent) than that of the service sector (71.4 percent). A large proportion (25 percent) of farmers specializing in food production were above the poverty level compared to the farmers growing export crops only (22.7 percent); although both groups suffered a similar level of extreme poverty. It may be inferred that the food growers would be more food secure, given their access to the own-consumption;

whereas the export crop growers could be less food- secure, since they have to depend on market purchases. Farmers who produced both food and export crops did not much better; as much as 31 percent of them were above the poverty line, and the proportion of their group which suffered extreme poverty (35 percent) was about ten percent lower than the similar proportion of farmers who specialized in either food or export crop production.

Table 7: Anti – Poverty Programmes by the Government of Nigeria, 1986 to date

Programme	Year Established	Target Group	Nature of Intervention
Directorate for Food, Roads and Rural Infrastructures (DFRRI)	1986	Rural Areas	Feeder Roads, rural water supply and rural electrification.
National Directorate of Employment (NDE)	1986	Unemployed youths	Training, finance and guidance.
Better Life Programme (BLP)	1987	Rural women	Self – help and rural Development programmes, skill acquisition and health care.
People's Bank of Nigeria (PBN)	1989	Underprivileged in rural and urban areas	Encouraging savings and credit facilities
Community Banks (CB)	1990	Rural residents, micro enterprises in urban areas	Banking facilities
Family Support Programme (FSP)	1994	Families in rural areas	Health care delivery, child welfare, youth development, etc.
Family Economic Advancement Programme (FEAP)	1997	Rural areas	Credit facilities to support the establishment of cottage industries
Niger- Delta Development Commission(NDDC) formally OMPADEC (Oil Mineral Producing Area Development Commission)	1999	Oil producing states	Development of oil producing states and provision of employment for their youths
Upward review of salary	1998, 1999	Salary earners	Increase in salary
Poverty Alleviation Programme (PAP).	1999	Poor people	Job creation.
National Poverty Eradication Programme (NAPEP)	2001	Poor people and unemployed in rural and urban areas	Job creation and credit facilities to the poor
Women and Youth Employment Scheme (W-YES)	Current	Women and unemployed youths	to create sustainable employment.

Source: (i) Oladeji and Abiola, (1998); (ii) CBN (2003): Annual report and statement of Accounts

Following the above trend, a great number of efforts have been initiated by the Nigerian government and the international communities have been at improving basic services, infrastructure and housing facilities for the rural and urban population as well as extending access to credit and farm inputs, and creation of employment (see Table 7) but they have not succeeded in changing the living situation of the very poor people. This was found from the study to be as a result of inconsistency and non-implementation of government policies to the letter. Most of the programs seemed to have benefited those who were less needy and already on their own feet economically. The phenomenon which can best be termed as 'the rich getting richer and the poor getting poorer. Those living in poverty are often denied access to critical resources such as credit, land and inheritance.

Table 8: Programme of the National Directorate of employment

Programme	Scheme ⁷	Target Group
(i) National Youth Employment and Volitional Skills Development Programme (NYEVSDP)	(a) National Open Apprenticeship Scheme (b) Waste-to-wealth Scheme (c) The disabled Scheme (d) The School-on-wheels scheme	Primary and School leavers Disabled Youths in the Rural Areas
(ii) Small Scale Industries and Graduate Employment Programme (SSIGEP)	(i) Graduate Job Creation (ii) Mature people Scheme (iii) School Leavers ⁸ Loan Scheme	Young Graduates retired/Retrenched School Leavers
(iv) Agricultural sector Employment prog.	(a) Graduate Agricultural loan Scheme (b) School leavers School leavers Agricultural Scheme	Graduates of Agric.
(v) Special Public works Programme (SPWP)	(i) Labour Intensive Projects. E.g. road Construction and Maintenance (ii) Environmental Beautification	Graduate and non graduate

Source: Computer by the Authors in 2005 from CBN annual reports and statement of account (various issues).

(c) The roles of gender and their levels of involvement poverty in Nigeria

In the past decade the number of women living in poverty has increased disproportionately to the number of men, particularly in the developing countries, even though the proportion of women begging for arms in the streets is less than those of men. In addition to economic factors, the rigidity of socially ascribed gender roles and women's limited access to power, education, training and productive resources are also responsible. Many experience a life that is a complex web of multi-roles and multi-tasks, which requires the average woman to conduct 'different roles at different times in a bid to fulfill her family's needs'. The role of women in Nigerian society is changing, but not always to their advantage. They generally work much longer hours than men do. They provide an estimated 60–80 per cent of the labour in agriculture through the production, processing, and marketing of food. They assist on family farms and are farmers in their own right. They are responsible for fetching water and fuel wood and act as 'the most important health worker for their children. So, Nigerian women are in an important position to contribute to food security, nutrition, and the overall health status of the family. But they are inadequately recognized or rewarded for their efforts at any level. They are affected by poverty in different ways, depending upon their age, race, ethnicity, linguistic background, ability, sexual orientation, and citizenship. They constitute more than half of the world's population and more than 70 per cent of the world's poor.

Given the harsh realities of increasing poverty in the country, Nigerian women experience poverty in the following ways: economically through deprivation; politically through marginalization in terms of their denial of the rights to land ownership (inheritance) and access to credit facilities and other inputs; socially through discrimination in terms of their participation in decision-making at home and in the community; culturally through ruthlessness; and ecologically through vulnerability. They receive less than 10 per cent of the earnings or credit available to small farmers. Although there is a scarcity of documentation about women's role in relation to land ownership and farming in Nigeria, but statistics on land registration show that 90 per cent of all land in the country is registered in men's names. Nigerian women have always worked on farms, yet have never been allowed to own any land.

Findings from UNIFEM (2000) have revealed that in the formal sector, women constitute 30 per cent of professional posts, 17 per cent of administrative/managerial positions, and 30 per cent of clerical positions; 17 per cent are employed in 'other' categories. Women are disproportionately concentrated in low-paid jobs, particularly in agriculture and the informal sector. The Federal Office of Statistics has noted that 48 per cent of women are engaged in agricultural work, and 38 per cent are involved in petty trading at markets, although it is common knowledge that most rural women conduct both roles. Women and young girls in Nigeria are burdened with an unfair workload inside and outside the home. Data suggest that 33 per cent of women work five or more days per week for very long hours to supplement the family income. In rural areas, aside from their reproductive and housekeeping roles, women must fetch water and firewood, in addition to conducting much of the agricultural work in the fields such as planting, hoeing and weeding, harvesting, and transporting and storage of crops. Research has revealed that 41 per cent of working mothers have to attend to their children while at work. Women in urban areas have little support from their extended family or community and so are forced to take their young children with them to work. Or the infants are left with older female siblings while their mothers are at work, which prevents the older girls from attending school, and partly explains the high levels of illiteracy among young girls. Men in Nigeria have much greater control over resources than women do. As a result of this, Nigerian government has initiated series of programmes to assist women in obtaining micro-finance and credit, formation of co-operatives and self-help organizations such as Federation of Nigerian Women's Societies (FNWS) in 1953, formation of National Women's Commission was set up (later upgraded to the Ministry for Women's Affairs and Social Development), Family Support Programme (FSP) and Family Economic Advancement Programme (FEAP). However these programmes have not achieved the desired goal as the situation has not changed. The macro-economic reforms under the Structural Adjustment Programmes and the prevalence of human-rights abuses, cultural barriers and the high level of illiteracy among females are some of the factors that have further plunged women into deeper poverty in Nigeria. Continued denial of gender's rights and lack of recognition of their important role in the agricultural labour force is another factor that further compound Nigerian women poverty level a phenomenon that can be termed as 'feminisation' of poverty. Recent result of a joint research by the Federal Government of Nigeria (FGN), in a joint venture with UNICEF (2002) has shown that women and children in Nigeria are among the poorest in sub-Saharan Africa and the developing world.

In response to UN initiatives, Nigeria recently formulated a National Policy on Women. The policy is an attempt to incorporate women fully into national development as 'equal partners, decision-makers and beneficiaries' of Nigeria, through the removal of gender-based inequalities. The policy aspires to the inclusion of women in all spheres of national life, including education, science and technology, health care, employment, agriculture, industry, environment, legal justice, social services, and the media. It aspires to eliminate the negative aspects of Nigerian culture, which serve only to harm women, and it aspires to challenge the patriarchal status quo.

(d) Uses of ICT for gender empowerment in Nigeria

Recently, information is observed, as a prerequisite for empowerment⁹ (World Bank, 2002) and participation drives empowerment by encouraging people to be active in the development process, to contribute ideas, take initiative, articulate needs and problems and assert their autonomy (Ascroft and Masilela, 1994). ICT is the latest in the series of continuing technological revolutions, and is argued to have significant influence on gender empowerment (van Ark et al, 2002). Informed citizens according to World Bank report (2002) are better equipped to take advantage of opportunity, access services, exercise their rights, and hold state and non- state actors accountable. Social influences on women's relationship to technology affect their attitudes toward ICTs. The tendency to direct women into non-technological professions and responsibilities means that women feel "fear and embarrassment" when dealing with ICTs. A study in Nigeria revealed that women considered the word "technology" to have male connotations, even though "information" seemed more feminine. Some even believed that working with ICTs would drive women mad. These examples indicate a high level of discomfort with new information technologies.

There is therefore the need for greater concentration on the use of ICT for gender empowerment in Nigeria. For instance, United Nations Millennium Declaration (2005) has resolved to ensure that globalization becomes a positive force for all the world's people and to promote gender equality and empowerment of women as effective ways to combat poverty, hunger and disease and to stimulate development that is truly sustainable, and to ensure that the benefits of new technologies, especially information and communications technologies, are available to all. Women's full and equal access to ICT-based economic and educational activities supports women's contributions in both business and home-based activities and improves women's socioeconomic status, strengthens the family, and provides access to information, communication, freedom of expression, and formal and informal associations. ICTs also provide options for women, including overcoming illiteracy, creating opportunities for entrepreneurship, allowing women to work from home and care for their families, accessing ICTs from rural locations, and enhancing and enriching their quality of life.

(e) Uses of ICTs in the enhancement of economic livelihood of the poor in Nigeria

ICTs are often viewed as near-magic solutions to problems. They are extremely powerful tools that have proven useful in many areas of Nigeria. Traditional media and new ICTs have played a major role in diffusing information to poor living in rural communities. Although little empirical evidences of the benefits of ICTs in Nigeria are found in literatures, there are great potentials of ICTs as tools for enhancing peoples daily lives whether by increasing access to information relevant to their economic livelihood, better access to other information sources; healthcare, transport, distance learning or in the strengthening of kinship. The result from this study showed that, the most common of the ICTs related to poverty alleviation programs in Nigeria are telephone and radio. While other commonly uses of traditional media include: Print, video, television, films, slides, pictures, drama, dance, folklore, group discussions, meetings, exhibitions and demonstrations (Munyua, 2000). The use of computers or the Internet is still restricted to very few people living in urban centres. ICTs have the potential to broaden and enhance access to information and communication resources for remote rural areas and poor communities, to strengthen the process of democratization and to ameliorate the endemic problem of poverty (Norris, 2000).

With the privatization of the Nigeria Telecommunication system, mobile phones are increasingly becoming affordable by average Nigerian (the poor), and they help to overcome rural isolation and make communication easier. The wireless technologies have entered remote rural areas

thereby reducing the reliance on costly fixed telephone infrastructures. In many rural areas, over 50% of households make regular use of the telephone when compared with few years ago when the figure was less than 5%. Such accessible communications are now being used for family contact, reduction of the necessity for trips, access to government services, and much more. Both radio and telephone are now operating in Nigeria regardless of the language spoken and do not require literacy, which helps in explaining the exceedingly high utility and utilization of both. The Internet-based communications is however found to remain the least effective in majority of the rural areas of Nigeria because the resource thresholds are far higher, typically requiring higher-quality communications, electricity, technology infrastructure, and literacy in a computer-supported language.

ICTs are also found as tools that open new opportunities and new threats (often by virtue of each other). They have a far more enabling role in building the capacity of the intermediary institutions that work for poverty, rather than directly affecting poor themselves. ICTs have the greatest potential to act as a facilitator for specific development initiatives such as the cassava, rice initiative programmes that are currently operational at grass roots in Nigeria. Access to ICTs provides information on prices, markets, technology, and weather to the poor farmers. Community-based telecentres have the potential to empower rural communities and facilitate socio-economic developments in agriculture. It uses selected ICTs (e-mail, Internet, phone, radio, TV, print) to accelerate the wider delivery of appropriately packaged agricultural information and other relevant information useful for the poor.

ICTs offer information and knowledge, which are critical components of poverty alleviation strategies; they make available easy access to huge amounts of information useful for the poor. Through the new technology, particularly networked Internet technologies, anyone can find almost anything. There are fewer secrets, and fewer places to hide. Educated but poor farmers and traders in Nigeria are now promoting their products and handle simple transactions such as orders over the web with payment transactions for goods being handled off-line (O'Farrell et al 1999). Evidence has also shown that even though trading online is not a common practice by the poor Nigerian; the technology is cheaper and faster paper-based medium, telephone or fax. Electronic-commerce enables entrepreneurs to access global market information and open up new regional and global markets that fetch better prices and increase earnings.

The lack of adequate healthcare is one of the most onerous aspects of poverty. There has been significant focus on using ICTs to actually deliver healthcare (telemedicine) and as a way of educating people on health issues in Nigeria. For instance, preventive measures of AIDS and current incident of bird flu are communicated to the poor through television, Internet, radio, posters etc. However, there are other uses of technology, which have the potential for revolutionary improvements in the delivery of healthcare. In most cases, the technology is being used in its simplest forms to aid in the collection, storing and retrieval of data and information.

ICTs have assisted Nigeria in the reduction of unemployment rates at national, urban and in rural areas of Nigeria. Through the establishment of rural information centers in most parts of the country, ICTs have created employment opportunities in rural areas by engaging telecentre managers, subject matter specialists, information managers, translators and information technology technicians. Such centers have helped to bridge the gap between urban and rural communities and reduce the rural-urban migration problem. The centers have also provided training and those trained have now become small-scale entrepreneurs in their respective areas. Thousands of the poor Nigerian has also benefited from telephone service through sales of either accessories or Telephone calls (make calls, receive calls).

Sound decision-making is dependent upon availability of comprehensive, timely and up-to-date information. Food security problems facing Nigeria demonstrate the need for informed

researchers, planners, policy makers, development workers and farmers. Information is also needed to facilitate the development and implementation of food security policies. Introduction of mobile phone in Nigeria has helped in transmitting information to and from rural inaccessible areas.

ICTs have helped in the empowerment of a number of rural communities in Nigeria and give them "a voice"¹⁰ that permits them to contribute to the development process. With ICTs, many rural communities acquire the capacity to improve their living conditions and become motivated through training and dialogue with others to a level where they make decisions for their own development (Balit 1998). According to the ILO (2001), ICTs have assisted significantly in socio-economic development of many poor Nigerian.

In Nigeria, the ICTs have also helped to impact on the livelihood strategies of small-scale enterprises and local entrepreneurs as well as in the enhancement of various forms of social capital¹¹. A proportion of the research literature discusses social capital and ICT from general internet studies as well as specifically place based research (O'Neil 2002). Social capital theory, particularly since Putnam (2000), has attracted the attention of scholars working to understand ICT in local as well as historical communities. While Putnam's theory focuses on the value of bridging across-group social ties, earlier social capital theory particularly Coleman (1988), emphasizes the value of bonding within-group social ties. ICTs initiative is part of existing social interactions, they reduce the friction of space not the importance of place (Hampton 2004). The technologies have been viewed as part of a complex ecology of communication tools that enable local social interactivity. For instance, the Internet is a tool for maintaining social relations, information exchange, and increasing face-to-face interaction, all of which help to build both bonding and bridging social capital in communities (Kavanaugh and Patterson 2001). ICT initiatives play a significant role in developing and sustaining local social ties and stronger ties are characterized by broader media usage (Haythornthwaite, 2005).

The use of ICTs in the enhancement of various forms of Household livelihood assets including social capitals following de satge et al (2002) are highlighted as:

- Natural Capital; opportunities for accessing national government policies.
- Financial Capital; communication with lending organizations, e.g. for micro-credit.
- Human Capital; increased knowledge of new skills through distance learning and Processes required for certification.
- Social capital; cultivating contacts beyond the immediate community.
- Physical capital; lobbying for the provision of basic infrastructure.

Through the use of ICT, some information on effects of environmental degradation that causes poverty is communicated through radio. The radio plays are communicated in several local languages to people. These have helped many communities to improve their conservation practices.

New ICTs¹² though not commonly used by majority in Nigeria as compared with the old ICTs¹³ and really old ICTs¹⁴ have the potential to penetrate under-served areas and enhance education through distance learning. The new ICTs facilitate development of relevant local content and faster delivery of information on technical assistance and basic human needs such as food, agriculture, health and water. Farmers can also interact with other farmers, their families, neighbors, suppliers, customers and intermediaries and this is a way of educating rural communities. The Internet can also enable the remotest village to access regular and reliable information from a global library (the web). Different media combinations are used in different cases through radio, television, videocassettes, audiocassettes, video conferencing, computer programmes, print and CD-ROM or the Internet (Truelove 1998). Rural areas also get greater

visibility by having the opportunity to disseminate information about their community to the whole world.

(f) Constraints of linkages between ICTs and poverty reduction in Nigeria

In examining the linkages between ICTs and poverty reduction; few scholars have paid close attention to the constraints that exist for poor to harness the potential benefits of ICTs. The key constraints facing ICTs in poverty alleviation in Nigeria are: lack of access to electricity / unstable supply of electricity and the lack of adequate technical support. These constraints according to Heeks (1999), Melkote and Steeves (2001) referred to as “technological constraints”. Electricity is basic to Internet access and ICT use. The result from the survey showed that over 75% of rural Nigeria are still in the dark without power for lighting, let alone for running computers or TVs. Other constraints also observed from the study include: evaluating information, constraints in applying/using Information.

Available evidence strongly suggests that such constraints are driven by socio-economic development, so that access to ICT diffusion reflects and reinforces traditional inequalities between the rich and the poor communities (Norris, 2000). The poor and socially excluded are unlikely to “reap the benefits” of ICTs due to deep divisions of social stratification such as patterns of household income, education, occupational status disempowerment etc.

The new information and communications technologies are among the driving forces of globalization. They are bringing people together, and bringing decision makers unprecedented new tools for development. At the same time, however, the gap between information 'haves' and 'have-nots' is widening, and there is a real danger that the world's poor will be excluded from the emerging knowledge-based global economy” (Arunachalam, 2002).

(g) Connections between ICT and anti- poverty measures in Nigeria

ICTs have been used as an integral part within the framework of the government policy plans on poverty alleviations programmes in Nigeria even while the same contextual problems such as corruption, marginalization of women in credit earning that caused the earlier movements to fail still exist. Most government poverty alleviation programmes through ICT (such as radio, newspaper, mobile phone etc) are now being communicated to the very poor the programmes are meant for. Monitoring of poverty alleviation programmes, feedback from the beneficiaries /non-beneficiaries is now being done through ICTs such as “radio weekly link programme” Presidential monthly chart” etc. At the national, States and local level in Nigeria people can express their views on the performance of government anti- poverty programmes chatting with the president, governors or the local government chairperson as well as officers directly in charge of the execution of such programmes.

In addition, anti-poverty measures introduced through the use of ICT has been able to generate substantial amount of employment through the use of mobile phone by many Nigerian to sustain a living. There are many call centers in villages and towns mostly operated by people between age distributions of between 20-29 years (38%), mostly women with secondary/ post secondary education in Nigeria. Some of these people run shops for the sale of Global System of Mobile (GSM) accessories as a major form of occupation as means of self-employment as well as a means of sustaining livelihood (80% and 84% respectively as shown in Table 9). Past studies have shown that over 2,000 persons are directly employed by GSM operators and an estimated of 40,000 Nigerians are benefiting from indirect employment generated by GSM operators in Nigeria (Ndukwe, 2003). ICTs have also assisted in the area of micro-credits finance and cooperatives. Farmers are now organizing cooperatively to manage their access to market as an alternative to being at the mercy of powerful buyers. Credits are now easily made available to the poor for a better quality of life through such social groups and ICTs.

Table 9: Distribution of respondents according to their demographic characteristics and ownership/ operators of mobile phone call centre

Variable categories	Frequency	Percentages (%)
Age distribution (year)		
Less 20	8	16
20-29	19	38
30-39	12	24
40-49	7	14
50-59	3	6
above 59	1	2
Total	50	100
Gender		
Male	17	34
Female	33	66
Total	50	100
Educational level		
No formal education	2	4
Adult education	5	10
Primary school education	10	20
Secondary school education	15	30
Post secondary school education	18	36
Total	50	100
Call center		
As primary occupation	45	90
As secondary occupation	5	10
Total	50	100
Reasons of owning call centre		
Means of livelihood	42	84
As a means of self- employment	40	80
Lack of admission to school	30	60
Parental influence	10	20
Easy to run	15	30
The profit in the business	30	60

Note: reasons for owning call centre are a multiple response; Source: field survey, 2006

Through the use of ICTs such as the GSM telephone, transaction costs of many Nigerian who are poor have drastically been reduced. People make called before traveling and for business transaction. The technology has led to increase service innovation, efficiency and productivity.

(h) Steps Nigeria can take to explore full potential of ICT in Poverty Alleviation

Focussing on the use of ICT alone does not lead is not the only means of gender empowerment and sustainable poverty alleviation in Nigeria. However, the most effective route to achieving substantial benefit with ICTs is to concentrate on re-thinking development activities by analysing current problems and associated contextual conditions, and considering ICT as just one ingredient of the solution (see Figure 1). Application of ICTs for poverty should always begin with a development strategy. From that, an information plan can be derived and only out of that should come a technology plan. In doing this bottom-up, demand-driven should be followed; gender and the poor to be empowered must be allowed to appreciate the needs while they must be alleviated

by allowing them to express their developmental needs, That is, they should be allowed to construct their own agenda for ICT-assisted development, prior to introducing the technology.

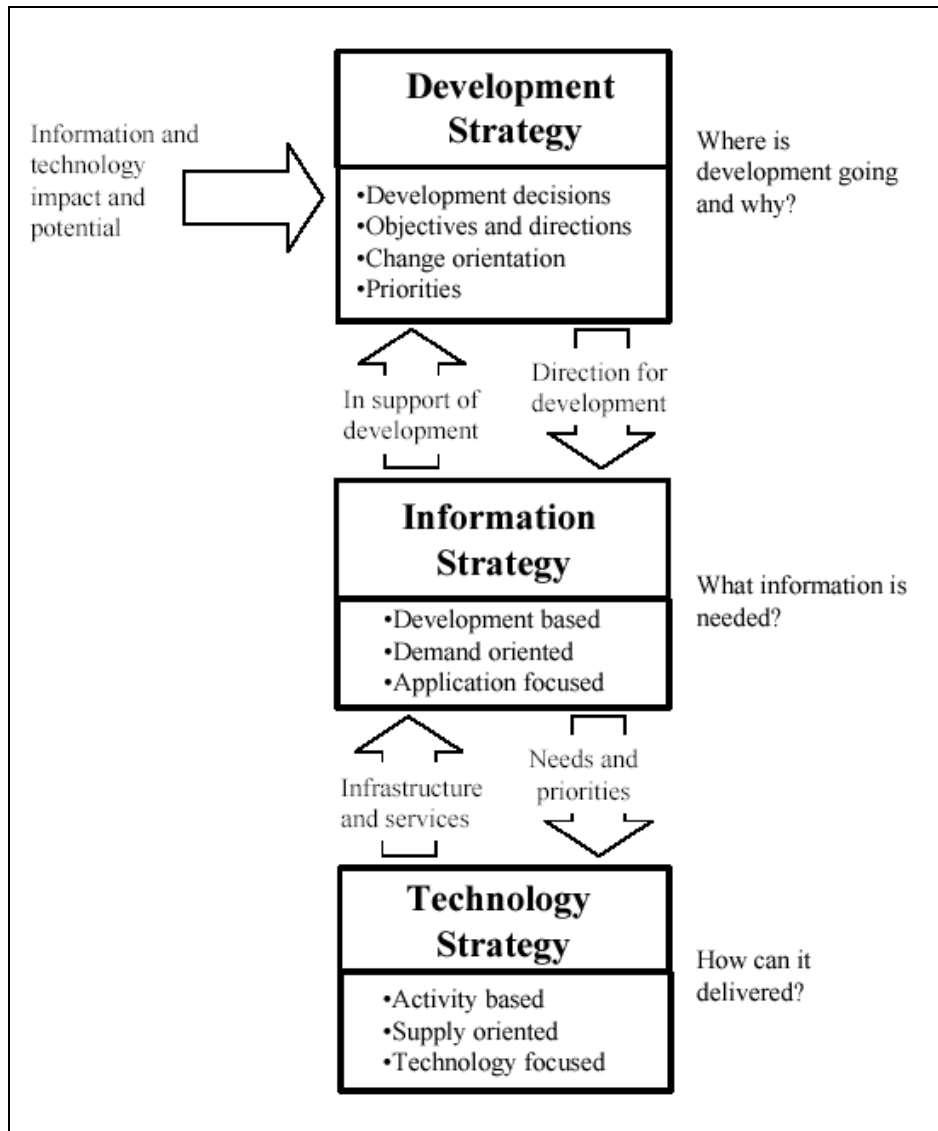


Figure 1: Relationship between development, information and ICTs

Source: Roger Harris (2002): ICT for poverty alleviation framework

As part of pro-poor ICT policy in Nigeria, government must acknowledge its role as a major employer and user of ICTs. This must begin with a development commitment that targets poverty alleviation. This will foster the infrastructure development that will be required to achieve widespread poverty alleviation through local access combined with suitable methods to ensure access is used to the best effect. There is the need for the Nigerian government to encourage institution reform leading to the delivery of effective services capable of exploiting the

infrastructure. The services must be directed towards and delivered to the local access points to the poor people who need them (see figure 2).

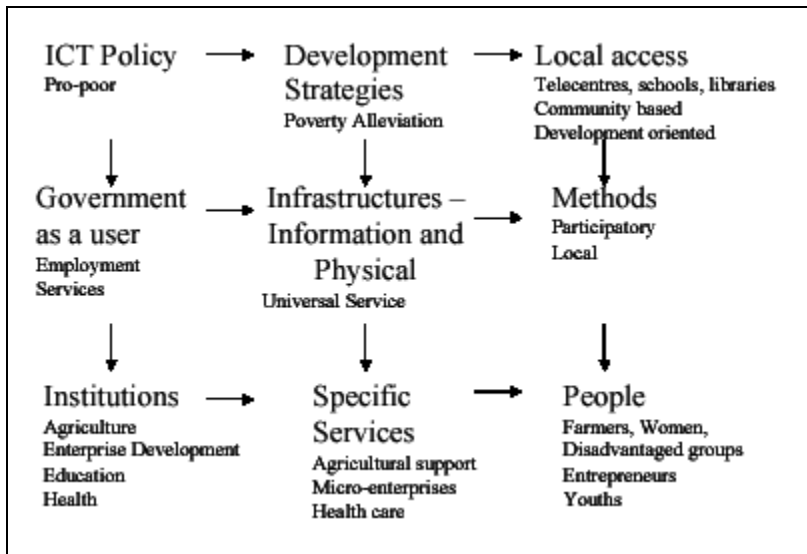


Figure 2: A framework for poverty alleviation with ICTs

Source: Roger Harris (2002): ICT for poverty alleviation framework

Government should also realise that eliminating the problems that the digital divide¹⁵ represents requires more than the provision of access to technologies. According to the ILO, ICTs can contribute significantly to socio-economic development, but investments in them alone are not sufficient for development to occur (ILO, 2001). That means that telecommunications is a necessary but insufficient condition for economic development. Application of ICT is a necessary but not sufficient resource to address problems of the poor that mostly reside in the rural areas of Nigeria without adherence to principles of integrated rural development. So, unless there is minimal infrastructure development in transport, education, health, and social and cultural facilities, it is unlikely that investments from ICTs alone will enable rural poor in Nigeria to cross the threshold from decline to growth.

The digital divide then goes beyond access to the technology and can be expressed in terms of multiple dimensions. If Nigeria wishes to share the benefits of access to technology, further provisions have to be implemented in order to address all the dimensions of the digital divide. These include a variety of societal concerns to do with education and capacity building, social equity, including gender equity, and the appropriateness of technology and information to its socio-economic context. The poor people must understand digital divide and they must be thought to use and have access to ICTs (see table 4).

RECOMMENDATIONS

In order for Nigeria to be economically competitive, politically stable, and socially secure, there is the need to utilize technology in making advances in health, politics, education, business, agriculture, consumer goods, national security and poverty reduction. The country needs to focus

its attention on the development, access, and implementation of ICTs both in the rural area where majority of the poor resides and in the urban centers. Formation of women association, farmer associations and Community-based organisations at rural areas will act as training centres and access points for ICTs. From such group, the poor will be thought on how to use computers for word processing, making complex calculations and tables of their work plans and income and expenditure. The access points will also play the role of information centres where price lists, weather forecasts will be available in any form either as print, digital, audio, video form. To achieve these, the following are further recommended

- The problem of technical support can be solved by strengthening the local and regional technical schools and colleges;
- The problem of access to electricity in most rural areas of Nigeria and its irregular supply in the Urban centres can be solved through the promotion, generalization and better understanding of the technology of local solar or biofuel supply system. While the latter can feed a small-scale local alternate Current (AC) generator eventually connected to the grid, the solar cell system does not have to feed a storage-inversion system to generate AC; it can feed the computer directly with low-voltage direct current (DC);
- There is still need to examine the laws that give rise to or perpetuate poverty. This will require radical review of ownership of assets, access to social services with particular emphasis on education and health.
- Sustainable poverty reduction strategy should not focus narrowly on gender and ICT. They should be seen as essential component of poverty reduction process where both sex are carried along
- There is a need to establish women's clubs and the existing ones strengthen in communication skills and ICTs just as in the case of a group (Self Employed Women's Association) in India in where the rural women were trained in the production and use of video to generate income, disseminate new skills and to advocate for changes in policy (Balit 1999)
- The target population for policy-making of poverty alleviation must be known in relation to each specific service. Service must be capable of differentiating between the poor and those not so poor, so that benefits can be directed to their intended recipients.
- A telecentre that is designed to support community development should be stressed by Nigeria government and in accordance with Collen (2000), it should be aggressive and creative in localizing its knowledge and information resources. Locations for telecentres must be carefully selected, and should take into consideration the "level of potential demand for communication and information services from a large number and wide range of users", its proximity to other organisations and institutions, infrastructural considerations and socio-cultural issues (Anderson 1999). The information systems established should be multi-sectoral (agricultural research, extension, training and education, and health)
- In most rural areas in Nigeria with a greater proportion of the poor and where the infrastructure is not yet developed, the internet could be used from a central point (telecentre) for online broadcasting and for exchanging relevant information to them
- Nigerian governments should formulate national strategies to narrow knowledge gaps, including those for technology acquisition and distribution, education and training and expanding access to technologies through its economic reform of deregulation and privatizations
- Gender who are the worst hit of poverty should be allowed to participate not only at the formulation stage of poverty programmes but equally at the implementation stage

- The present effort of Government through its Poverty Alleviation Programme (PAP), now known as Women and Youth Employment Scheme (W-YES) needs to be properly focused to create sustainable employment.
- Government must continue with its liberalization policies in the agricultural and telecommunication sectors to attract more private sector investment in the ICT development and utilization as it has done for the makers of “Zinox” computers. This will make ICT more accessible and cheaply. The policies must also be consistent, stable, and investment friendly.
- The moribund rural telephony project must be resuscitated and doggedly implemented to bring the ICT revolution and its potentials to rural areas where the majority of Nigerians live and work to ensure the country's survival. Access to information is part of empowerment of the rural masses.
- There is the need for the Government to make ICT the hub of the Policy wheel, to link the various sectors and absorb the cost at the initial stage of implementing the Policy.
- There is a need to extend the monitoring, evaluation and documentation of successful and unsuccessful applications of ICTs for poverty alleviation and to develop models for identifying strategic future investments and programmes.
- It is necessary for the Government to encourage locally assembled computers to enable more people to get access to the ICTs at a reasonable cost.
- The information needs of various users should be identified in order to develop user-specific, locally sensitive content and applications. The role of civil society and the private sector become very important in this identification process. It is important for the policy on ICT to take into account training of disadvantaged people to harness their potential for the National interest.
- The Infrastructure development of the country should be tackled seriously for decentralization of ICT to take place in all districts to facilitate socio-economic development of the country and alleviate people sufferings.
- There is the need for the Government to focus on the introduction of ICT into its educational systems from the Basic level to the Tertiary level. The revision of the curriculum of these institutions should be design in such a way as to meet the needs of the country. This will make the children to be use to the use of ICTs and prevent them from entrance into poverty in future through their access to opportunities that can fetched them jobs
- The necessary resources must be available in the educational institutions to facilitate the teaching and learning of ICTs in the country's institutions.
- The Government must address in the Policy issues relating to the duties and taxes paid on computers and accessories to make it affordable to most people to spread the literacy rate.
- There is the need for the Legal and Regulatory framework to ensure that the telecommunication operators follow required standards and provide quality service to customers.
- The general telecommunication facilities in the country must be improved and spread to all the districts, towns and villages in the country since the spread of ICT would rely heavily on this facility.
- Government through its relevant ministry should develop specific policies on ICTs and ensure equitable access for rural populations to information and ICTs since the sector

holds so much potential for poverty alleviation and socio-economic development. Investment and policy structures to stimulate initial demand for ICTs should be put in place

- There is the need to address policy issues relating to Human Resource Development. It is important for all employers to re-train their staff to make them ICT literate and a must for all new employees.
- Nigerian government must encourage Women and the Youth both in and out of school to be part of the ICT process
- There is a need to develop ICT strategies for rural areas taking into consideration differences in languages, culture, socio-economic conditions and infrastructure. There is also a need to encourage the private sector to invest in the design of ICTs appropriate for use in rural areas.
- ICT has not been given appropriate attention in the Nigeria yearly budget, to sustain poverty alleviation using ICTs, a portion of revenue from telecommunications should be used to support and promote the expansion of ICT infrastructure in rural areas.
- The socio-economic context should be integral to the design of ICT projects. Local initiatives should be encouraged to explore the opportunities presented by ICTs and incorporate participatory communication and learning processes
- There is the need for a constant and painstaking review of the poverty eradication policies in order to make them relevant to the contemporary realities through the use of ICT

CONCLUSIONS

This paper revealed a deeply troubling social phenomenon in Nigerian society: increasing widespread poverty and failed attempts to create sustainable policies to address this problem. The programmes are not sustainable because the key stakeholders, the 'poor' whose feelings and actions constitute the major success factor for the programmes are often not aware or consulted. Sustainable poverty reduction will therefore require not only the proper identification of the poor (including their characteristics and survival strategies), but the use of ICTs which offer unprecedented opportunity for decentralizing information access and creation. A narrow ICTs view is just as futile as a narrow feminist view. Poverty problem being multidimensional therefore requires politically conscious social organization. ICTs become essential tools in alleviating poverty through the enhancement of social capital and economic of livelihood of the poor in that, it helps to remove information distortion which often makes it difficult to monitor the rate of cheating of eligible families excluded from poverty alleviation programme in the past. Involvement of gender in the formulation of poverty reduction programmes will help in achieving the desire results since they can spend all there resources for the survival of members of their family as well as been good resource managers. ICTs also help in stretching implementation energies to the full. The new ICTs have the potential of getting vast amounts of information to rural populations in a more timely, comprehensive and cost-effective manner, and could be used together with traditional media.

Endnotes

- ¹ This is not to say that there is no definition of poverty. There are many, with different groups each using their own version.
- ² Job that meets the needs for the present without compromising the ability of future generations to meet their own needs
- ³ ICTs refer to any electronic means of capturing, processing, storing and disseminating information. ICT is a combination of information technology (IT) and communication technology (CT). The former involves the processing and packaging of information, while the latter is concerned with the interaction, exchange and linkage with information and data bases between users via networking. The coverage of ICT goes beyond such activities as programming, networking and analyzing. It enables the usage of computers and related tools to enhance the quality of products, labour productivity, international competitiveness and quality of life
- ⁴ To alleviate Poverty means the process of freeing the poor from their state of poverty, the process of empowering the poor to get out of their poverty state.
- ⁵ Poor people are those that have been denied of choices and opportunities for living a tolerable life (United Nations, 1997).
- ⁶ Gender is the socially constructed relations between women and men in a particular society but in the content of this study refers to women
- ⁷ "Scheme" as used in the study implies "job"
- ⁸ "School leaver" refers to those that have finished secondary school but without any job
- ⁹ Empowerment: This is the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control and hold accountable the institutions that affect their lives
- ¹⁰ Giving rural people a voice means giving them a seat at the table to express their views and opinions and become part of the decision making process.
- ¹¹ Social capital has been defined as the capacity of groups to work together for the common good (Montgomery, 1998) or as the ability to draw on relationships with others especially on the basis of trust and reciprocity (HDR, 1998)
- ¹² New ICTs: Computers, satellites, wireless one-on-one communications (including mobile phones), the Internet, e-mail and multimedia generally fall into the *New ICT* category. The concepts behind these technologies are not particularly new, but the common and inexpensive use of them is what makes them new. Most of these, and virtually all new versions of them, are based on digital communications.
- ¹³ Old ICTs: Radio, television, land-line telephones and telegraph fall into the Old ICT category. They have been in reasonably common use throughout much of the world for many decades. Traditionally, these technologies have used analog transmission techniques, although they too are migrating to the now less expensive digital form
- ¹⁴ Really Old ICTs: Newspapers, books and libraries fall into this category. They have been in common use for several hundred years
- ¹⁵ Something that seems to require mere technology to redress socio-economic inequalities

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