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ENHANCING THE EFFECTIVENESS OF POVERTY REDUCTION INITIATIVE USING INFORMATION TECHNOLOGY.

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ABSTRACT
Poverty seems to have persisted in many developing countries like Nigeria despite various measures and strategies that have been adopted over the years to deal with it. In spite of these efforts majority of the populace is poverty stricken. The problem is not introducing these initiatives but rather how effective these initiatives are in reducing poverty. Many governments in Nigeria have introduced various strategies/initiatives to reduce poverty but the strategies seem not to have been effective in dealing with the problem. There is need therefore to find a way of enhancing the effectiveness of these initiatives. The paper is focused on how IT can be used to enhance the effectiveness of the different poverty initiatives so as to reduce poverty to the barest minimum.

Keywords: Information Technology, Poverty , Poverty Reduction Initiatives.

1. INTRODUCTION

Poverty can be defined in many different ways. Some attempt to reduce it to numbers, while others argue that a more embracing definition must be used. In the end, a combination of both methods is best. In [19] Poverty is fundamentally the inability of getting choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or clinic to go to, not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living in marginal or fragile environments, without access to clean water or sanitation. Some people describe poverty as a lack of essential items – such as food, clothing, water, and shelter – needed for proper living. Poverty is defined as an economic condition of lacking both money and basic necessities needed to successfully live, such as food, water, education, healthcare, and shelter. When one lacks income security, economic stability and unable to predict his or her continued means of meeting one's basic needs, all these serve as absolute indicators of poverty. Poverty may therefore also be defined as the economic condition of lacking predictable and stable means of meeting basic life needs. Today, most economists and social workers use two ways to define poverty so it is usually measured as either absolute or relative.

Absolute or **destitution** poverty refers to the severe deprivation of basic human needs, which commonly includes food, safe drinking water, sanitation facilities, clothing, shelter, health care and education. It depends not only on income but also on access to social services [22]. The term 'absolute poverty' is sometimes synonymously referred to as 'extreme poverty. Poverty is generally thought of as deprivation in respect of things necessary for life - food, water, health, shelter and other fundamentals to life - education, security, opportunity, and freedom. It is also associated with lack of rights, freedom and empowerment, at both household and higher levels of social organization. It is the lack of many kinds of capital - physical/economic ('plant and equipment,' market institutions), human (education, knowledge), political and social/community institutions and so on. All these take time to build and accumulate. [1] Defines poverty as lack of power, choice and material resources. It is the condition of having insufficient resources or income. It is a lack of basic human needs such as adequate and nutritious food, clothing, housing, clean water and health services.

[21] in its definition of poverty goes beyond the view of income levels, suggesting that poverty includes powerlessness, voicelessness, vulnerability and fear. A broader definition of poverty is seen as being deprived of the information needed to participate in the wider society at local, national or global level [15].

In [19] poverty is categorized in the following ways:

1. Income poverty – lack of insufficient income to satisfy essential needs.
2. Capability poverty – this is a deprivation in the range of things people do.
3. Participation poverty – this is a deprivation in the range of things people can do.

To understand the impact of IT on poverty reduction, one needs to look at the nature of extreme poverty. According to World Bank Report 2000 on world development indicators, poor countries are those countries where one third of the country's population lives on less than one US dollar per day [12]. [12] Kenny in his citation using data gathered from 2000 and 2003 World Bank Report said that the main characteristics of poor people are:

- Very low income
- Subsistence, unskilled wage labour as the dominant income source
- Physical good especially food as the dominant consumption good.
- Low education and high literacy minority language group status.
- High rural population.

According to the[3], poverty is a state in which an individual (a) is not able to care adequately for his or her basic needs of food, clothing and shelter, (b) lacks gainful employment and (c) is unable to obtain adequate income, find stable job, own property or maintain healthy living conditions. The poor also lack adequate level of education and can not satisfy their basic health needs. As such the poor are often illiterate. In Nigeria poverty is found among the rural landless, the small farmers, the urban under-employed and the unemployed [14].Throughout the developing world there is a strong focus on improving the destiny of the poor[1]. The need to reduce poverty to the barest minimum has been the major concern of the world over. The reasons for this global concern have direct bearing on the negative implications of poverty. Poverty is dehumanizing and poses serious threats to economic, social and political stability as well as endangers global environmental health. Nigeria has always spear-headed the campaign to reduce poverty with a view to achieving poverty reduction in Africa, [5].

Poverty reduction refers to all formal activities geared towards lowering the rate and prevalence of poverty in a country. In the developing world, a lot of strategies/initiatives have been used to alleviate/reduce poverty. These strategies include: village pay phones, access to market information, creating a more skilled workforce, providing basic services, Operation Feed the Nation, National Directorate of Employment etc. According to [9] ICT Information and Communication Technology refer to any artifact, technique or knowledge used to create, store, manage and disseminate information. This includes radio, television, video cameras and telephones. IT is defined as the set of activities that facilitate the capturing, storage, processing, transmission and display of information by electronic means [22]. They include telegraph, radio, television, computers, internet services and wireless technologies. [1] defines ITs by categorizing them based on how they have been in common use and to some extent the technology used for the transmission and storage of information.

New IT- this includes computer, satellites, wireless one-to-one communication (mobile phones). Four characteristics can be used to describe the modern ITs.

- Interactivity: they are now effective two-way communication technology. The flow of information can be interactive. It is no longer only received but can be created and offered more easily.
- Permanent availability: it is available 24 hours a day
- Global reach: geographic distances hardly matter anymore.
- Reduced cost: for many people cost of communication has gone down to a fraction of previous values and relatively cheap.

Old IT –Radio, Television, land line and what we may call 'really old IT' such as newspapers, books and libraries. Today a useful working definition of IT can be seen as an electronic means of capturing, processing, storing and disseminating information. [15] Believe that information and knowledge are critical components of poverty alleviation strategies and information technologies (ITs) offer the promise of easy access to huge amounts of information useful for the poor. It is believed that the use of IT is a key to helping alleviate poverty. We believe that the technological infrastructure available today can be exploited to significantly alleviate poverty by empowering certain demographic groups through IT skills.

2. LITERATURE REVIEW

Although IT has been shown to promote economic growth, the precise linkage between IT and poverty are unclear. There are many who are sceptical about the impact of IT on reduction of poverty. There are also those who believe that IT can play a key role in poverty reduction. Poverty is a complex problem and requires a holistic, effective and sustained solution. [18] in his paper argued that an important area of innovation in IT for poverty reduction is to exploit the particular strengths of different IT tools by combining them to deliver a more complete communication package. He went on to say that internet-based initiatives may be irrelevant if they are targeted directly to the poor, but can be effective if targeted to community intermediaries that obtain information from the internet and communicate it using other ITs (e.g. radio, television video) while the poor will only reap the fullest benefits of IT when they own and control both the technology and its related know how.

Since the early 1990's, information technologies ITs and the related services are believed to have the potential to promote steady and sustainable growth, to increase competitiveness, to open new job opportunities and to improve the quality of life to all Europeans [European Commission, 1993 in [11]]. [12] in his paper discussed the use of IT in poverty alleviation. He argues that the impact of IT on the lives of the poor goes beyond income generation. He contends that IT has been vital in poverty alleviation in the areas of education, health and improved governance. [4] Discussed how IT has created economic, social and political empowerment opportunities for poor people in the developing world. In their paper they highlighted how IT can empower poor men and women in four broad areas: first, access to basic service by means of radio and television. This has enabled them to bring education down to the rural areas. Second, improved governance by better delivery of government service to the citizens. This has enabled them to get to the government without having to go through the middle man. Third, a tool to support entrepreneurship by connecting people to markets. This has helped the poor to access important market information in a more timely manner. Finally, access to financial aids/services. Poor people have been able to have access to financial services. [8] Discussed how IT provides unparallel opportunities to improve the lives of the world's poorest people by creating jobs, improving access to health care, providing education and other services. The Foundation opines that there should be a conscious effort to develop and champion break-through applications of IT in order to reduce global poverty.

3. INFORMATION TECHNOLOGY ENHANCEMENT OF POVERTY REDUCTION INITIATIVES

In this section we shall review empirical examples of how IT has enhanced the effectiveness of poverty reduction initiatives. The impact is multiple and differs greatly depending on technology used. Radio and telephone are cheap and their use requires few skills; and in terms of context and language they enjoy great flexibility [9] . The approaches of categorizing impact of IT on poverty reduction differ depending on the different points of view of the author. [17], lists the following as impact of IT on poverty reduction in developing countries:

- .Access to information on community level
- Gender – equality and empowerment
- Education and human development
- IT as growth engine
- Livelihood developments
- Public sector, social services and poverty reduction management
- Environment and natural resource management
- Innovating and empowering role at several levels
- Demand-driven development of new technologies

We can examine some of these to buttress the effective enhancement of poverty reduction initiatives through the use of IT.

3.1 Access to Information on Community Level

With respect to poverty reduction, there are a lot of Telecentres that combine radio, provide phone, fax and email and Internet facilities in rural communities. These Telecentres provide information on agriculture, livelihood, and health education. [9] gave an example of how IT can be a strong health information dissemination tool and how the youths have improved access to information through community based Telecentres in Zambia. Another example of Telecentres is those of the UNESCO community multimedia centres. Here the community radio which serves as a local media offers the possibility to share information and skill; this gives the people in the remotest area access to all these (UNESCO, 2003). In this information is provided in the local language with locally relevant content in which the community can benefit significantly. An example is the village information shops in Pondicherry, India. This provides information using the Tamil language. Another example is "The Gyandoot Project" in Madhya Pradesh State of India [16], [22]. This system is an intranet that connects rural cyber cafés catering for the everyday needs of the masses. All these distribute locally relevant information on many areas like employment news, E-education , rural markets etc.

3.2 Targeting Disadvantaged and Marginalized Groups

Information technology has been used to benefit disadvantaged groups like women, disabled etc. These groups need special assistance if they have to benefit from the programmes which are targeted for them. The strategies to achieve these include the collection, classification, protection, and commercialization of indigenous knowledge by these groups using IT. e.g. The Honey Bee network in India[16]. This network collects local innovations, inventions and remedies, stores them on-line, and helps owners obtain incomes from local patents and commercialization of inventions. It also provides buyers with the historical and cultural background of indigenous products.

This network provides the artisans with more direct access to their market through the Internet and allows them achieve recognition as the creator of original art and crafts. Since most poor people are women and children, it is stressed that gender inequality be included in IT policies. It is observed that women face specific barriers to the use of IT [17] . These barriers include lower level of literacy, domestic and reproductive responsibilities, lower level of financial resources etc. It is important therefore to target more on IT projects. As an example, experience has shown that community radios favour women more than men because it requires less skill to operate on a community level [9].

3.3 Promoting Local Entrepreneurship

IT can be a tool to support people's entrepreneurship, when people are connected to market, IT can stimulate the poor people's entrepreneurship. IT has impacted on the livelihoods strategies of small scale enterprises and local entrepreneurs in the following areas. This is achieved by giving the poor the opportunities for accessing national government policies.

- In terms of financial capital, that is communicating with lending organizations, e.g for micro-credit
- In terms of human capital ie increasing their knowledge of new skills through distance learning and processes required for certification
- In terms of Social capital ie cultivating contacts beyond the immediate community
- In terms of physical capital ie lobbying for the provision of basic infrastructure

An example is the India Shop[16]. This is an Internet-based virtual shopping mall selling Indian handicrafts. This India Shop involves e-marketers who promote the goods over the Internet, through chat-rooms and mail lists. Another example is in Gujarat, computerized milk collection centres using embedded chip technology are helping ensure fair prices for small farmers who sell milk to dairy cooperatives. According to world bank, computerized milk collection now increases transparency, expedites processing, and provides immediate payments to farmers [22].

3.4 Improving Poor People's Health

Health care being one of the most important areas for poverty alleviation, IT has been used to improve health care delivery to the poor. It can also simplify medical data collection [5]. Redundant data is eliminated and reports are generated automatically. IT has been used in developing countries to facilitate remote consultation, diagnosis, and treatment. This enables physicians in remote locations to take advantage of the professional skills and experiences of colleagues and collaborating institutions [7]. Health workers in developing countries can accesses relevant medical training through IT enabled delivery mechanisms. An example is "Apollo Hospitals" which has set up a telemedicine centre at Aragonda in Andhra Pradesh. This offers medical advice to the rural population using IT. The centre links healthcare specialists with remote clinics, hospitals, and primary care physicians to facilitate medical diagnosis and treatment. These hospitals have equipment to scan, convert and send data images to teleconsultant stations and this scheme is available to all the families at a very low cost. Another example is in Ginnack, a remote island village on the Gambia River. Here nurses use digital camera to take pictures of systems for examination by a doctor in a nearby town. Also the physician can also send pictures over the internet to a medical institute in the U.K for further evaluation.

3.5 Strengthening Education

The low cost and wide reach of radio and television are enabling the delivery of education to isolated rural areas, and Telecentres are becoming the means of the delivery of distance learning and virtual education [4]. In developing countries, distance education programmes help to educate more people for less money. It was reported by UNESCO and World Bank that in the world's 10 biggest distance education institutions, the majority of which are in the third world, the cost of education per student is on the average one third of the cost at traditional institutions in the same country. This has been achieved through distance learning and is helping the education system to move from elite to mass education. This is because traditional universities cannot meet the demand. Example, In China, China's Central Radio and Television University has 1.5 million students, two-thirds of them in degree programmes. This university caters for working adults. It broadcasts radio and TV lectures at fixed times to students at 2,600 branch campuses and 29,000 study centres, as well as at workplaces. In primary and secondary education, radio and television have increasingly become an important means of reaching the rural poor. CDI schools train more than 25,000 young students every year in IT skills that give them better opportunities for jobs, education and life changes. This has helped in resisting the lure to join drug gangs, and greatly

3.6 Supporting Good Governance

IT helps in improving access to services. IT has effectively enhanced poverty reduction through E-governance. In this area the application of IT shows rapidly increasing promise for alleviating the powerlessness, voicelessness, and vulnerability and fear dimensions of poverty. It has been used to spread democracy and also include the poor in the process of governance. An example is an India government owned computer network which has made government more accessible to villagers in their poor district of Dhar. [4], [2]. This network has helped the villagers to have access to a lot of information needed for development without having to go through middle men. This network has reduced the time and money people spend trying to communicate with public officials and have provided immediate, transparent access to local government data and documentation. There are also Internet enabled information kiosks that help small farmers to track crop prices in the region's wholesale markets. This enables them to negotiate better terms for crop sales [22].

3.7 Building Capacity and Capability

IT has helped in capacity building by developing the individual's core skills and capabilities to help him/her achieve his/her development goals. IT has been used to build awareness in poor communities of the government using the village information shops like the telecentres.The most likely scenario is that these very poor people will receive assistance from organizations and institutions that use IT and whose programmes specifically target them as beneficiaries. Community centres/telecentres, especially at the rural level can act as a nodal point for community connectivity, local capacity building, content development and communications, and serve as hubs for applications, such as distance education, telemedicine, support to small, medium sized and micro-credit enterprises, promotion of electronic commerce, environmental management, and empowerment of women and youth.

3.8 Supporting Agriculture

IT allows people to access important market and business related information in a timely and efficient manner. This enables them to access important and essential agricultural information/data e.g. on crops etc.[7], [4] This has been achieved by delivering useful information to farmers in the form of crop care and animal husbandry, fertilizer and feedstock inputs, drought mitigation, pest control, irrigation, weather forecasting, seed sourcing and market prices. In some other cases IT has enabled farmers to participate in advocacy and cooperative activities. This can be illustrated by considering the case of tomatoes farmers in India who in the past were harvesting their tomatoes at the same time, giving rise to a market glut that pushed prices to rock bottom. At other times, when tomatoes weren't available and the prices shot up, the farmers had none to sell. Now, the farmers use a network of Telecentres to coordinate their planting so that there is a steady supply to the markets and more regulated and regular prices.

3.9 Creating Employment Opportunities

Poor people in rural localities lack opportunities for employment because they often do not have access to information about them. One use of IT is to provide on-line services for job placement through electronic labour exchanges in public employment service or other placement agencies. In this way, unemployed people can use IT to discover job opportunities. In addition, they can also become employed in the new jobs that are created through the deployment of IT.

3.10 Reinforcing Social Mobilization

Villagers are brought together to discuss local development issues of common interest and to initiate local development strategies. Second, they are persuaded to save, which after some time becomes an important source for credit operations. Third, they are trained, mainly in management techniques and income generating activities, in order to create the foundation for grass-roots institutional development, to improve sectoral service delivery and to support those who want to undertake socio-economic activities.

3.11 Connectivity

IT has helped in connecting community-based artisan producer groups[4]. For instance, PEOPLink, a non profit co-operation built a network of trading partners which provides services to community-based artisans' producer groups. Furthermore, there is Utilities Afrique Exchange that provides e-trading plat form to utilities companies [7], [4]. IT provides opportunity to improve the lives of the world's poorest people. It can create job, improve access to health care, education and other services [8]. Village pay phones provided a means of communication and a means of income generation [10],[7] ,[4].

[15] in his work addressed the digital divide and the use of IT for poverty alleviation. Digital divide he said is a result rather than the cause of poverty and efforts to bridge it must be embedded in any effective strategy that addresses the cause of poverty. IT will not achieve their full potential without suitable attention being paid to the processes they are intended to assist and the context within which they are being implemented. [13] in his paper said that a few would argue that lack of access to information technology (IT) is an element of poverty in the way that insufficient nutrition or inadequate shelter are. If being poor is defined as lacking access to the internet, then no one in the world would have escaped it before 1969 but that IT are increasingly central in the effort to escape poverty.

4. CONCLUSION

IT is a tool that can help individuals expand their consciousness and capacity for empowering themselves. It provides people with a better understanding of the technology and its usefulness in our every day life. its use should increase their access to information which should lead to possible ways of improving their wellbeing. IT makes education more attractive using video to teach them in their village halls and this will reduce mass literacy. Agro based farmers can get information through their village halls on crops, fertilizers through IT which will help improve on their agricultural production. IT has an important role to play in reducing poverty by improving the flow of information and communication. It is a valuable tool for information sharing and awareness raising within the wider community development to combat poverty and advance international development goals. It is observed that poverty alleviation strategies used in developing countries were mainly by the application of IT.
One peculiar thing to note is that without the use of IT the impact of poverty alleviation is thinly spread and sometimes, the rich (non-poor) benefit more from them because of their privileged position. There is need for good governance. I strongly believe that since IT has benefited these countries immensely, empowering the citizenry through IT can go a long way in reducing poverty to the barest minimum.

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