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Gender and Information Communication Technologies (ICTS) in Nigeria: Challenges and Prospects

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Abstract - In contemporary civilized Nigeria, the Information Communication Technologies (ICTs) has become a household name used in offices and at homes to access, receive and retrieve information. Many innovations in the world today are as a result of the exposure and access to the world of the ICTs and people all over the world can access any other parts of the world to receive information about anything that borders on their interest in life. Women in their quest for empowerment and societal recognition have adopted and accepted ICT as an instrument for their advancement and empowerment. This is manifested in their previous two world conferences in Nairobi, 1985 and Beijing, 1995, where among several areas of concern, the role of the media in subordinating women featured prominently. But unfortunately, despite the much emphasis placed on the use of ICTs in Nigeria, women are often underrepresented in terms of access and use. It is against this background that this paper examines the challenges and prospects of ICT utilization among women in Nigeria. These challenges include lack of infrastructure, education and skills; urban-bias; and sociocultural and economicchallenges.The study concludes that to address these gender gaps in ICTs in Nigeria, all hands must be on deck to change women's attitudes towards ICT use by overcoming technophobia;women should be provided with educational and economic empowerment; government ICT policies and programs must address the needs of women; andthe civil society should be part and parcel of this crusade for the betterment of women and the society at large.

Keywords : *ict, gender, nigeria, discrimination, empowerment, technophobia, nana asma'u.*

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Gender and Information Communication Technologies (ICTS) in Nigeria: Challenges and Prospects

Hajara Umar Sanda [α] & Mustapha Hashim Kurfi [σ]

Abstract - In contemporary civilized Nigeria, the Information Communication Technologies (ICTs) has become a household name used in offices and at homes to access, receive and retrieve information. Many innovations in the world today are as a result of the exposure and access to the world of the ICTs and people all over the world can access any other parts of the world to receive information about anything that borders on their interest in life. Women in their quest for empowerment and societal recognition have adopted and accepted ICT as an instrument for their advancement and empowerment. This is manifested in their previous two world conferences in Nairobi, 1985 and Beijing, 1995, where among several areas of concern, the role of the media in subordinating women featured prominently. But unfortunately, despite the much emphasis placed on the use of ICTs in Nigeria, women are often underrepresented in terms of access and use. It is against this background that this paper examines the challenges and prospects of ICT utilization among women in Nigeria. These challenges include lack of infrastructure, education and skills; urban-bias; and sociocultural and economicchallenges.The study concludes that to address these gender gaps in ICTs in Nigeria, all hands must be on deck to change women's attitudes towards ICT use by overcoming technophobia;women should be provided with educational and economic empowerment; government ICT policies and programs must address the needs of women; andthe civil society should be part and parcel of this crusade for the betterment of women and the society at large.

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I. Introduction

The concept of Information Communication Technologies (ICTs) is an emerging field in the world of communication, which is wielding an unimaginable influence on global activities. It restructures politics/governance, economy, culture, health etc. in many countries and regions around the world. The ICT provides a great development opportunity by contributing to information dissemination, providing an array of communication capabilities, increasing access to technology and knowledge among others. Individuals and groups have accepted it globally as a tool for enhancing their varied interest. According to Tiamiyu (2003) the ICTs are the electronic technologies for creating, acquiring, storing, processing, communication and using information. This involves the process whereby computers and other related machines are used in the dissemination and retrieval of information. This is a new technology from what is originally known in the traditional mass media of the print and broadcast.

In contemporary Nigeria, the ICT has become a household name, used in offices and at home to access, receive and retrieve information. Emphasis is being placed in the use of the ICTs to access the world at large. Similarly, many innovations in the world today are as a result of the exposure and access to the world of the ICTs, and people all over the world can access any part of the world to receive information about whatever that borders their interests in life.Women in their quest for empowerment and societal recognition have adopted and accepted ICTs as instrument for advancement and empowerment. It is also a tool for speedy global mobilization and dissemination of information among women. Women have long been aware of the power of information and knowledge sharing as a strategy for mobilization, advancement and empowerment.

The importance attached to information and knowledge sharing by women in pursuing their course is manifested in their previous two world conferences in Nairobi, 1985 and Beijing, 1995, where among several areas of concern, the role of the media in subordinating women featured prominently. The fourth world conference on women in Beijing in 1995 recommended that women equal access to economic resources, including land, credit, science and technology, vocational training, information, communication, and markets, as a means to further the advancement and empowerment of women and girls including the enhancement of their capacities to enjoy the benefits of equal access to these resources by means of international cooperation. In addition, the conference highlighted in its platform for action on women and the media, diagnosis: strategic objectives which include; to increase the participation and access of women to expression and decision making in and through the media and information communicationtechnologies as

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well as to promote a balanced and non-stereotyped portrayal of women in the media.

These declarations and strategies are clear indication that the women recognize and appreciate the place of information in driving home their points. Unfortunately, despite the much emphasis placed on the use of ICTs in Nigeria, women are often underrepresented in terms of access and use. In spite of the fact that women make up the majority of the population as well as their workforce of any society and women also play a pivotal role in the development of their societies but still their impact has not been felt or has been silenced in this new technology due to lack of access and the necessary skills for the operation amongst other several obstacles. Notwithstanding, ICT if given the enabling environment can be used to empower women not only through access, but also through control over the kind of information women access, receive, obtain and collect. Furthermore, women can also use the ICT to adopt and to create collected information into new and localized knowledge for further sharing with others in the community, thus contributing towards their empowered, self-determination and well-being.The thrust of this paper therefore, is to examine the challenges and prospects of ICT utilization among women in Nigeria. Prior to that, it is pertinent to clarify certain key concepts such as Gender and Information Communication Technologies (ICTs).

II. Operationalization of Some Concepts

a) Gender

Gender is a socio-economic variable for analyzing roles, responsibilities, constraints, and needs of men and women in a given context. It refers to the social and cultural constructs that each society assigns to behaviors, characteristics and values attributed to men and women. The basis of the construct lies behind the idea that they are natural or intrinsic, and therefore, unalterable. These gender constructs are shaped by ideological, historical, religious, ethnic, economic and cultural determinants.These are usually translated into social, economic and political inequalities, where men's activities and their gender attributes are perceived as essentially superior to women's. Buttressing this notion, Okunna (2000) opines that gender relations in Nigeria are characterized by a lot of imbalance, to the disadvantage of women, by keeping women in subordinate positions to their men counterparts. The larger society and the male subculture still see women and their aspirations as subordinate, resulting in a situation in which the marginalization, trivialization and the stereotyping of women becoming glaring aspects of Nigerian life.

According to Civil Resource Development and Documentation Centre(CIRDDOC, 2001) gender could be described as "a system of roles and relationships between men and women that are determined not biologically but by social, political and economic context" (p.1). Gender also involves the process by which individuals who are born into social categories of male and female become the social categories of men and women through the acquisition of locally defined attributes of masculinity and femininity which is beyond biological differences, all other differences between men and women are socially constructed and have no logical relationships with their biological composition. Burgos-Bebray(2010) asserts that though gender roles are distinctively different and important in every existing human society, they are nevertheless not unequal and that during struggles, they are irrelevant. As if invoking Burgos-Bebray (2010), Boserup (2007) argues that colonization came with gender inequality as an instrument to strategize the perpetuation of women subordination, subjugation and exploitation.

In the developing nations like Nigeria, where people are raised in a culture highly dominated by role differentiations, the women are often reminded of their natural roles as wives and mothers and that these are the only places where they can fit in and perform. The effect therefore, is that women especially in Nigeria tend to shy away from other roles they can comfortably fit into. This stereotype thereby strengthens the patriarchal worldview amongst most African that women are not expected to participate in decision-making process. By implication therefore, women should be seen not heard.

The concept of gender is used to understand the social and political relations between men and women as well as how the concepts of femininity and masculinity are constructed. Gender attributions are therefore often justified on the basis of sexual or biological differences. For instance, women are perceived to be "naturally" nurturing, a characteristic linked to their reproductive capacity as child bearers.This gender attribution has permeated the field of science and technology globally. This is because it is often categorized as "hard" and therefore "masculine", a field traditionally considered suited for men not women. For instance, the perception that women fare poorly in science and technology relative to men is often attributed to biological limitations of women, rather than to gender stereotypes in educational materials, teaching approaches, study opportunities and technological designs that contribute to gender gap in ICT use.

Encapsulating the above situation, Okunna (2000) argues that the Nigerian woman is characterized by low self-esteem because the society has continued to regard her as unimportant and inferior to her male counterpart. Right from the time immemorial, society prefers the boy child to the girl child. All through her growing-up years, the girl child is socialized to accept her subordinate position even when it is well known that Liberal Feminist theory is correct in its argument that

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boys and girls are born with equivalent potentials that could be fully realized, given the proper and conducive environment. Consequently, men are assumed to be better equipped to pursue science and technology compared to women, creating greater obstacles for women from entering the field.

b) Information Communication Technologies (ICTs)

Information and communication technologies are often synonymously used with New Media or New Communication Technologies. They are simply communication gadgets or equipment that have modernized, improved and eased exchange of ideas and information of various kinds between and among people within or across distant boundaries/frontiers. ICTs extend and change the entire spectrum of technological possibilities for public communication.

Tiamiyu (2003) describes ICTs as a generic name used to refer to a number of communication hardware adopted in ensuring instantaneous dissemination of information and social values across the globe. It is also a disparate set of communication technology that shares that digitization made possible and is widely being made available for personal use as communication device. The essential features of the ICTs lie in their interconnectedness, their accessibility to individual users as senders and/or receivers, their interactivity, their multiplicity of use and open ended character and their ubiquity and delocatedness. These featuresessentially describe a computer-mediated medium – the internet.

According to Biagi and Foxworth (1997) the internet is a combination of thousands of computer networks sending and receiving data from all over the world – competing interests joined together by a common purpose, but without common owner. It is used mainly as a communication channel for electronic messages (such as e-mail), but it also holds an enormous amount of useful information (much of it consisting of multimedia) stored by individuals, governments, educational and research establishments and by commercial establishments. The Internet brings the cost of communication to a level where many can afford it. Thus, this affordability makes a person an instant publisher with access to an audience of millions of Internet users, creating a whole new class of mass communicators (Dominick, 2002).

With the emergence of the ICTs, the traditional mass media i.e. print and broadcast, which was believed to have brought the age of the media to a 'zenith', began to dwindle. The technology was being replaced by an age of personal or participatory media – the ICTs. With the ICT culture, people no longer passively 'consume' media but actively participate in them.Thus, the boundary between audiences and creators is blurred and often invisible. Some of the ICTs, which upset the traditional mass media, include:

a. Wikipedia – These are web pages that allow anybody who is allowed to log into them to change them. It is similar to an encyclopedia. Among the ICTs, the Wikipediais perfect compliments of blogs. The success of Wikipedia is hinged on mutual trust whereby accuracy evolves as more and more eyeballs examine an item. According to Weinberger cited in The Economist (2006), it is the purest form of participatory creativity and intellectual sharing and represents a socialization of expertise. Wikis allow groups of people to get on the same page.
b. Blogging – A blog is an online journal. It has to do with a web page to which the owner regularly adds new entries or posts which tend to be short and often containing hyperlinks to other blog or web page (The Economist, 2006). Blogs usually have a raw unpolished authenticity and individuality that makes it participatory in nature. A blog provides commentary or news, functioning as more personal online diaries. A typical blog combines texts, merges and links to other blogs, web pages and other media related to its topic. The ability of readers to leave comments in any interactive format is an important part of many blogs.
c. Metaverse- This stands for "metaphysical universe" as created by Linden Lab, San Francisco Internet Company. Metaverse means a second life. Something that is happening not in the real life. Second life according to The Economist (2006) is not a video game, but a place where people make things. People who log on to second life create an "avatar", an online extension of themselves. As avatars, they mingle, go to parties, create what they wear and drive in, build houses where they live, paint pictures and compose music. Avatars are futuristic in nature as a lot of things created in the second life are exported into real life as fashion, music etc.
d. Pod casting – The word is derived from a combination of pod from Apple's iPod – a fashionable portable music player, and casting from broadcasting. It is all about Internet broadcasting. It involves sending a radio signal to an entire population in a particular geographic area at a particular time. Pod casting involves recording of anything from music to philosophical ramblings, professional news or snorting noises – into a computer with the aid of a microphone, then posting the audio file onto the Internet. There, people can listen to it and more importantly, subscribe to a "feed" from the same pod caster, so that all new audio files from the source are automatically pulled down as soon as they are published. Pod casts are different from blogs and Wikis in that they cannot link directly to other pod casts. This makes pod casting a less social and probably less revolutionary medium.

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III. Gender Differences in ICT use in Nigeria

In Nigeria, gender differences in ICT use is linked to patterns of discrimination in the society at large as well as with patterns of power relations within the home. According to Jensen (1997) only 10 percent of the people riding the information superhighway via the internet are women. In the same line of thought, Okunna (2000) posits that this is the twenty-first century, but yet tradition, culture, religion and other factors have continued to widen the disparity between Nigerian men and women at the expense of women. Furthermore, in many parts of the world, high female illiteracy rates mean that women have little access to the print media. As for television and radio, women may not always be able to watch or listen to their preferred programmes due to so many obstacles, including spending most of their times caring for children.

Recognizing the vital role of women in the development of less industrialized societies, Scanlan (2004) argues that, it is undoubtedly a fact that regardless economic development level, population pressure, democratization, globalization, or region, women are in the fore front of development. Where then is the problem? Part of it is in colonization as Boserup (2007) argues. But there are still many other factors, including the way and manner women's narratives are written. For example, Women in Nigeria have taken an active role as partners in nationalist struggles, and at times spear-heading the movement to declare war against many forms of colonial impositions even prior to decolonization periods. The early stages of nationalist revolt against entrenched British rule in West Africa took the form of localized skirmishes like the Aba Women's fight against colonial tyranny of 1929. The Igbo women of eastern Nigeria feared that the head-count being carried out by the British was a prelude to women being taxed. Yet, the Perham's (1937) negative connotation The Aba Market Women's Riot in Nigeria, 1929 presents the women and their actions as violent and unlawful, ignoring the fact that about 25,000 of these women faced colonial repression and over a two-month period of insurrection, during which 50 of them were killed. These silences, stereotypes, prejudices and negative narrations against women further "justify" discrimination and bracketing of their immense contributions to sustainable development.

It is in line with the above that Guha (2002) argues "Self-consciousness exists in and for itself when, and by the fact that, it so exists for another: that is it exists in being acknowledged" (p.18). This kind of self-consciousness is what Nigerian women need, and the best way to achieve this in the contemporary state is through the ICT. If the Aba women in the early 20thcentury succeeded in mobilizing fellow women against the colonial tyranny without the use of any advanced technology as available today, what would they achieve by the year 2020, when effectively and efficiently utilizing the ICTs? As Gallagher (1995) notes, issues relating to policy making in technological fields often ignore the needs, requirements, and aspirations of women unless gender analysis is involved.

A sociologically relevant observation at this juncture is that, the post-colonial policies that we have are an extension of the British colonial strategies of inequality. To this end therefore, it is worthy to note that, the benefits of favorable policies do not accrue only to women but to both men and women with very positive impacts on the economy and society at large. With the current situation, it is inevitable that the women are left out. Jorge (2001) described the fate of the women as vastly under-represented in government, business, political and social institutions and men still hold most of the management and control positions in telecommunication companies and regulatory or policy making bodies; regulatory decisions are made without any impact analysis; service licenses are attributed to companies without equal opportunity policies and controlled mostly by men.

Women's marginalization from ICT stems from the assumption that women benefit less from new educational and employment opportunities. Gender differences also exist with regard to access to information, access to ICTs, developing skills to search for information, and the very use of these technologies. In an entrenched patriarchal society like Nigeria, women were much less likely to use media especially computer-based media. This is partly because women lack the necessary skills to make use of the ICTs and had many negative attitudes about these media. Notwithstanding, in recent years there are some changes in women's use of the ICTs whereby they are now developing skills needed to operate this new technology effectively.The potential of the ICTs for the advancement of women is considerable. Networking, research, training, sharing of ideas and information– all these could be infinitely easier through relatively affordable computer-mediated communications such as E-mail, Internet hypertext and hypermedia (Steffen, 1995).

IV. The Challenges of ICTS use for Women

The challenges or obstacles to ICT utilization for women's development are a global phenomenon but it is more obvious in developing countries. As a result of Africa's numerous problems such as poverty, high level of illiteracy among others, it is the worst hit. Just as in many areas of development (e.g. agriculture, health, and education), women face enormous challenges in ICT for their own development. Using and benefiting from ICT requires learning, training, affordable access to the technology, availability of information relevant to

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them and a great amount of collaborative efforts to create an enabling environment.Several obstacles have resulted in the differential access and impact of the ICTs on men and women. The following is a highlight of some:

a) Infrastructure

The success for the utilization of any ICT rests in the availability of the infrastructure that is set up in the environment. ICTinfrastructure in most developing countries and costs are exceedingly high. The little infrastructure available is even concentrated in the urban areas, and the bulk of women live in the rural areas. This tends to pose a huge gender gap in access to communication. It affects the majority of women, who in most African countries including Nigeria are poor and are living in rural areas. They lack access to these infrastructures in terms of access to computers, electricity, phone lines, computer hard and soft wares, servers etc.The infrastructure deficit of the rural areas coincides with gender demographics –more women live in rural areas than men. Therefore, majority of the population in rural areas, women have a smaller chance than men to access new technologies. As the UNDP Report (2000) noted, women with their special responsibilities for children and the elderly, find it less easy than men to migrate to towns and cities. The urban bias in connectivity thus deprives women more than men, of the universal right to communicate.Findings of George (2005) show that economic mobility as well as professional achievements mostly conceal certain underlying conditions of social upheavals among immigrant families and communities. This does not imply that women need to be encouraged to migrate to the cities as bread winners, rather, to show the trickle-down effects of their engagements, and to whistle-blow the dangers associated with urban-bias.

b) Education and Skills

Gender imbalances in education access still persist in most developing countries, despite the fact that education of women has been shown repeatedly to effect improvements in health and economic welfare. Education involves literacy, language, computer skills and information literacy. In each case, women in developing countries are less likely than men to have the requisite education and knowledge. According to the United Nations Report (2000), two-thirds of the world's 876 million illiterates are women who reside mostly in developing countries. Similarly, women are also less likely to know the international languages that dominate the web. Therefore, given their limited access to schooling, women especially those living in the rural areas, are also much less likely than men to have computer skills. This results to limited exposure and isolation of many women in developing countries particularly those in rural areas to have access to education and other skills, which will enhance the utilization of these infrastructures.

The case of Nana Asma'u, the daughter of Sheikh Usman Ɗan Fodio is a good example for reference at this point. Mack and Boyd (2000) have done a terrific job by writing about the historical, spiritual, and literary portraits of this remarkable Muslim woman, who at age 20, was a warrior, a teacher, a poet, and a key adviser to her father in his struggle to bring about a revolution (1804). It was in recognition of Nana Asma'u's intellectual contributions to the revolution that made Mack and Boyd to give the title of their work One Woman's Jihad: Nana Asma'u, Scholar and Scribe (2000). One major take-home from her case is if Nana Asma'u (1793 - 1864), was able to utilize her educational skills and assist in making a successful revolution at a time when cell phones were not invented, what can the current women of the 21st Century achieve, utilizing the powers of ICTs?

c) Socio-Cultural and Economic Problems

There are several issues related to the above factor as it affects women. This leads to various discriminations which extend to the realm of ICTs. Women generally tend to have more limited direct access than men to information and they are even restricted to accessing the Internet in some countries including Nigeria due to culture and religion. The African Gender Institute (2003) stated that in some societies there is disapproval of women's request to overnight browsing in a public cyber café especially married women. In addition, rural information centers are located in areas that women may not be comfortable frequenting. Although, there is recently a transformation in the access to internet through cellphones, it nevertheless has its own limitations including the lack of resources to constantly buy recharge cards for the phones; the power failure to charge the phones; and role conflict with the women's expectations as wives, as mothers, and as workers or full-time housewives. In other words, women have problems of time given their multiple roles and heavy domestic responsibilities. Their leisure hours are few and the centers may not be open when women can visit them. To yield positive results therefore, every meaningful policies should therefore reflect women's moral, spiritual, and cultural values.

Traditional cultural attitudes in most societies discriminate against women, depriving them access to education and technology. Girls are encouraged to take any job or encouraged to get married rather than seek higher education. There is also the issue of gender bias in attitudes towards women studying or using information technology. Many people hold outmoded views that girls cannot think or work scientifically and that science is too mechanical and technical for girls, thus discouraging female students.Phobia is also another obstacle in that most women have developed it

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for ICT especially considering the negative perception of the ICT tool as a tool for domination and oppression of NGOs to disabuse the minds of women on ICT as a negative tool.

Lack of financial resources can hinder women to participate fully in ICT community. This is because almost all communication facilities cost money and majority of women are afflicted by poverty. Poverty is rooted in gender imbalances, which are in turn rooted in gender inequality dynamics that stem from issues which cut across race, religion, status, culture and geographical location among others. Thus in comparison to men, women are worst hit as a result of their very limited involvement in economic activities in relation to their male counterparts. Okunna (2000) stressing on this maintains that the major cause of poverty among women especially in Nigeria is their low access to credit and income-earning opportunities, as well as marginalization from major economic activities. Since most women in Africa are full housewives without paid employment, they cannot fully participate in information technology. The ICT has its financial implication for every user requires money. To use cell phones, it must be recharged and to browse the internet and design web sites require money. Most women do not make much money as men, so they cannot afford the necessary computers, hardware and online services cost. More so, those that have the money believe to spend it on something else than ICT.

V. ICT Prospects for Women

Equal rights and full participation of women in all spheres of life is a sine-qua-non for full and complete development of any modern civilized nation. Women constitute majority of the population of many nations, and therefore need to be incorporated in the activities and affairs of those societies. In the area of information technology, for women's access and use of the media to be addressed it is necessary to consider, appreciate, and utilize their potentials, which could accrue from their full access and equal participation in the ICTs. To this end, certain measures must be put in place to address gender discrimination in information and communication technology. What are some of these measures?

a) Educational Empowerment

Education and information are central to building human capabilities. Education builds cognitive skills for processing information. Women's empowerment educationally will help them strengthen their individual and collective capacity as women. It will also enable them to advance their status as women in the society as well as give them the opportunities that ICT offers. Women should be encouraged in the area of education. Educational empowerment for the women can only be realized through universal access to and completion of basic education with resources adequate to ensure that the functional literacy and numeracy are instilled in a sustainable sense. This will enable them to understand the language of information technology and be in a position to use it efficiently. Hafkins (2001) maintains that women need to educate themselves on technical areas, so that they can translate the technical terms into reality. Similarly, the level of literacy must be addressed by way of providing training for women to learn the use of ICT facilities.As mentioned earlier, this task is not only a government's responsibility, but equally that of the civil society.

As Arimah (2001) posits, the informal sector in Nigeria needs value-based reforms that can be achieved through government's exploration of new ways of engaging the viability of the sector, and through public private partnership (PPP). Thus, the private sector should accrue part of whatever profit it makes to the community in the form of Corporate Social Responsibilities (CSR) and the education sector needs the largest share from that. Additionally, such policies and sharing formulae should be favourable to the girl-child and women, as educating them is as good as educating the community as a whole.

b) Economic Empowerment

Poverty and illiteracy remain the primary obstacles to internet growth in developing countries like Nigeria. Women and children are still the majority of those living in poverty. Reducing the gender gap in education will invariably increase the opportunity for women's economic empowerment. There is also the need to reduce job discrimination at their work places to financially empower women. In addition, creating cooperative societies for women will enable them have access to small scale loans that would help start small scale businesses.In the long run, it will increase women's finances and make them less dependent on men, and eventually increase their financial access to ICT facilities.

c) Provision of Infrastructural Facilities

To achieve the right to communicate as a basic human right for women in Nigeria, women have to take on themselves the difficult task of gaining access to the necessary infrastructures that will enable them use the ICTs. This entails the provision of more infrastructures that will take care of the majority of women who reside in rural areas as well as making available the latest infrastructure for users' needs. This means an understanding of the system of access and use of the ICTs by majority of the people in the society. Similarly, women must be involved in the technical complexities of information technology in order to reflect gender issues. The Nigerian government and NGOs therefore, should work towards actively devising creative solutions to provide access to ICT. Access to communications and ICT through community access points should be looked into by government and NGOs. They should also look

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into concerns related to consumers' ability to pay for services, particularly in rural and poor areas. Universal access policies aim at developing solutions that provide community access at affordable prices. New technologies have made these efforts promising and many developing countries are investing in such policies.For instance, Nigeria has adopted the rural telephoning policies and with the collaboration of some international agencies that are working towards realizing this goal. Expansion of public telephones and ICT access point's example, in post offices, community viewing centers etc. are some of the efforts.

d) Attitudinal Change Towards the Use of Icts

For women and girls to enter the information age for ICT use to be engendered, women must transcend some attitudinal barriers. Since science and technology disciplines are domainsthat are historically ascribed to males, women and girls find it intimidating and alienating. They therefore tend to see the ICT sector as a realm that is unfriendly and dominated by men. Thus they assume that technology and its production, application and maintenance as areas that fall more easily into the male domain. Women therefore need to overcome this technophobia;they need to be encouraged to change such attitudes that act as 'internal' barriers to their participating in the ICT sector; andthey should be encouraged to take up the challenges of the new information and communication technology in order to excel in it as they have done in other fields of endeavor in Nigeria.

The northern part of Nigeria is known to be the most educationally backward region in Nigeria as Hajiya Aishatu Jibril, the Minister of State for Education estimated the number of child beggars in the region at more than 10million, and the menace is on the increase. Undoubtedly, the girl-child is the worst hit. Now, the from the Nana Asma'u's case, we can understand that, the Nigerian women, notably the northerners, have a role model that can inspire them in changing their attitudes in favor of seeking for the both religious and secular knowledge including the ICTs' for the betterment of their lives and sustainable development.

VI. Conclusion

It is obvious that women have embraced ICT as a way forward in their quest for empowerment. Notwithstanding, they are caught in a web of numerous challenges some of which have been highlighted earlier on. To wriggle out of these problems in Nigeria, ICT policy and programmes must address the needs of women. Similarly, using and benefitting from ICT requires learning, training, affordable access to the technology, availability of information relevant to the user and a great amount of support for enabling environments. Solving ICT problems and enhancing the position of women in access and utilization would indeed facilitate development in the various areas of women endeavours. In addition, sensitizing women's organization and civil society in general to the gender impact of ICT issues in Nigeria would yield greater dividends for women. There is an urgent need to improve the representatives of women in the use of the new technology to enhance their status. This will increase their visibility as women in the society as well as eliminate discriminative tendencies against them. Women in Nigeria need to be committed in the use and access to ICT in order to demystify the general notion that ICT is a field exclusively reserved for men. Furthermore, engendering ICT policies in Nigeria will secure the benefits of the information age for girls and women. This will make them reap the benefits of the information age. Finally, the Nigerian woman needs all the help she can get to free herself from the forces that subjugate her in the wider society and in the world of the ICTs, which are powerful instruments for creating and reinforcing herself-image.

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