

SCIENCE, TECHNOLOGY AND GENDER IN NIGERIA

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Abstract

Women and girls around the world are excluded from participation in science and technology (S&T) by poverty, lack of education in spite of their legal, institutional, political and cultural environment. Science, technology and gender: this report is designed to support efforts being made worldwide to analyze, discuss and change this situation. Based on review on some development this report incorporates substantive inputs from institutions involved in science, technology, and gender studies and policy. Marking the start of an ongoing initiative, it aims to spur serious discussion and action in national and international scientific and academic communities, especially regarding the pressing needs to increase women's participation in S&T careers and enable sex disaggregated data collection and rigorous research development, along with increasing public awareness of gender issues. With its goals of helping educators, policy makers and members of the scientific community address the underlying causes of gender disparities in S&T, both in the public and private sectors, this report represents an important contribution to the political institutional mainstreaming of the gender dimension in S&T. It recommends, among others, that the discriminatory practice that excludes women from educational opportunities be discontinued; that women be motivated to develop their capacity through exposure to the challenges of science and technology.

Introduction

When critical comparisons is made between advanced economies and that of developing nations such as those in Africa like Nigeria, it can be seen that the major economic difference between such nations is most likely to be in the area of science and technology. Science and technology have enable most countries in the

world developed their human and material resources to their full potentials (Badi et al, 2005) and equally assist them to achieve this purpose with sound economy based on a technically fortified base. While all scientific discovery begins in the laboratory in form of hypothesis. The practical implementation of the developed hypothesis is appropriately tagged technology.

The results of these scientific practices are what most industries put to practices and use them with the intent to build industries in various sectors that would employ youths and finally stimulates the economy. The recent credit tsunami across the globe that has gulp several billions of dollars in form of bail out is an eye opener that the best way to secure and develop a country would be to develop it technically, employ science and technology most appropriately.

It is a usual culture in Nigeria in recent times to watch government make frantic moves to accept and support every step made to entrench and encourage science and technology education in Nigeria. However, the same government has failed to promote and formulate an enabling platform that would specifically support science and technology education for the women and girls in the nation. While adopting education as an instrument of liberation from poverty (Oluwole, 2003) the government of Nigeria gave premium on the importance of science and technology and in line with global perspective of science for all, made provision for science and technology education. The Nigeria government has several schools and institutions credited to it, but it has not made enough efforts to encourage women to neither take studies in science and technology nor

encourage them to take up careers in this area of our economic development.

Science and Technology Education in Nigeria Today

From economic development taking place across the globe, the importance of science and technology cannot be overemphasized. Nigeria like every other developing country is making frantic effort towards achieving qualitative science and technology education. Chief among these frantic moves includes curriculum changes; this involves the 6-3-3-4 system of education whose tenets is geared towards improving the acceptance of science and technology in the Nigeria educational system. The specific objective of this project was to make science education more functional than it was after independence. Advocate of this system are of the opinion that the reforms is to move from the teaching and learning that emphasis memorization of facts of science to that of inquiry orientated approach that brings about proper conceptual and cognitive understanding on the part of the learner.

The Nigeria National Policy on Science and Technology

The policy on science and technology is prepared for a time frame with a provision for revision at 5year intervals. Its basic philosophy emphasizes Nigeria commitment to the creation of an independent, integrated self-sustaining economy. The policy declares that education shall emphasize science at all levels (Nwachukwu, 1990). Meanwhile, the objective of the federal government in the policy as it relates to education is to re-orient the entire society towards scientific thinking in order to develop new technology and adapt existing ones to improve societal well-being and security (FGN, 1986). Aside the federal government national policy, state governments also have ministries of science and technology with science and technology policies that suits their local needs. This compliments government

efforts at national level. In order to aid the effective implementation of the national science and technology policies for the education sector, the National Policy on Science and Technology (1986) section 2:3 states the following strategies for implementation of the objectives;

- Evolving programmes for the recognition, encouragement, development and promotion of scientific and technological talents at all levels.
- Making it possible for the average child to have early contacts with the concepts and material related to science and technology.
- Ensuring a sound foundation during the first six years of 6-3-3-4 educational structures.
- Entrenchment of science teaching in the primary school curriculum.
- Provision of adequate teaching laboratory aids.
- Provision of well trained, well motivated science teachers.
- Introduction of gainful practical activities such as model making, handcrafts gardening and farming.

Women in Science and Technology Education in Nigeria

In Nigeria, it is a culture that women are not adequately reckoned with in the society (Herbert, 1998). Gender imbalances are further reflected in the education sector, formal-sector employment and government structures. There are persistent gender-specific inequalities between men and women at all levels. They form the majority of the most vulnerable groups. They need attention, encouragement and empowerment to make ends meet. The gender digital divide in Nigeria is apparent and reflected in the lower number of women users of ICT and also in the lower number of women students in ICT and science subjects, reflecting few women

professionals in sciences and ICTs, and the inequalities that exist in the formal education sector. The non-existence of sex-disaggregated data on ICT women users is further indication of the gender-based digital divide. Women have only been recognized much later, and so by design the ICT revolution is perpetuating the already existing gender-based inequalities in access, education and training, formal employment and other disadvantages for women. The existence of these inequalities and constraints makes the digital divide gender-based. A particular need remains to address these imbalances and their implications on the ICT revolution, especially to women, if they are not to be deprived of the opportunity to participate fully in the emerging economy that is likely to shape the twenty-first century.

Gender Equality Issues in Nigeria

Gender equality is a challenge itself. Governments at all level only pay lip service to issue of gender equality or equity in Nigeria. We want a society where women would be free from harassment, discrimination, and all forms of violence against them. Government must be prepared to promote rural women empowerment through series of workshops, practical seminars, group discussions and enlightenment programmes. The best option for empowerment of women in the grassroots is skills acquisition (Drucker, 1985). This will ensure financial independence and a better standard of living. Also adequate awareness creation and enlightenment on adult literacy for rural women will go a long way to help their situation in all aspects, and stop violence against them.

Education for Women Entrepreneurs

Investing in potential or capital is the most effective means of reducing poverty and encouraging sustainable development. Simply put "One way to humiliate poverty is through the use of hands" our hands are instruments of skill acquisition and wealth creation. If woman has to

be equipped with vocational/entrepreneurial skills, the first step in empowering her is through education. It is one of the most crucial concerns of the Millennium Development Goal (MDG) on gender quality. The United Nation (UN) and its agencies have long encouraged gender stereotypes and to strengthen the status of women within the family and in society as a whole and one of the ways of doing so is by supporting the education of women and especially girls. United Nations (UN) reports that in developing nations like Nigeria women usually receive less education than men, however results have shown that increased education for women is not only a matter of justice but would yield exceptional returns in terms of food security and benefits stressed below:

Benefits of Schooling for Women:

- Slow population growth
- Lower child morbidity and mortality rates
- Significantly improve household health and nutrition
- Improved productivity
- Greatly improve the status of women
- Permits them to earn higher wages
- Enhances their social and professional status
- Also enables them to implement measure to protect the environment.

Women in ICT

The digital divide is seemingly gender-based too. Women are certainly not using ICT optimally. Therefore, they seem to have been left behind or aside and remain, especially the rural-based, on the underprivileged side of this divide. In a patriarchal society where men are the dominant players in decision-making, women normally have not been at the forefront of development, and consequently they face

more challenges in embracing new ways, which in this case would be the new ICTs. Society has always promoted and favoured men in education and training, formal employment and other areas. However, in many country economies, women shoulder most productive, reproductive and community management responsibilities, many of which are not remunerated or reflected in national statistics. The lower status of women in comparison to men is due to gender imbalances that arise from unequal opportunities and access to and control over productive resources and benefits.

Many countries have experience rapid changes in the information and telecommunication sectors (Yadav, 2008). Information and communication technologies (ICTs) have been rapidly introduced to the world in what many call the ICT revolution, and this could play a resounding role in transforming the quality of life. They have enormous potential to improve the delivery of services, increase productivity, raise living standards, and transform economies and development opportunities as they may exist in education, governance, environmental management, health, financial services and the private sector.

It is increasingly apparent though that the benefits of ICTs are unevenly distributed between and within countries, to a large extent because of differences in access and the knowledge-base needed for their optimal use. These continue to be evidence of a “digital divide” between those who have and those who have no access to ICT or the knowledge and training needed to use them. Modern ICTs can influence, as well as redress, imbalances in society by the way they are designed, produced, used and exploited.

The digital divide continues and the reasons are numerous. Not only are there dangers of a growing digital divide due to lack of access, resulting from economic or geographic situations, but there is also seemingly a lack of training opportunities to adapt to the new technologies. So

there remains a small minority of society that has access to the global ICT network, and while this number is expected to grow, the divide may continue to widen if the primary concerns of differential access and benefits are not addressed.

Women in Vocational Training

Vocational training is a special skill that is related in one way or the other to science education. When it is not possible to acquire these skills in a formal school, it is possible to do so by way of vocational training. One sure way of promoting women education in Nigeria is to provide and encourage women in taking up challenges in science and technology education. Incentives like scholarship scheme can be put in place and some special science schools for women and girls can also be established all in the need to encourage our young girls to build responsible careers in the nearest future.

Vocational training could take the form of formal education, apprenticeship, and short-term tutorials or through intensive practical training in some vocation. Several agencies and government establishment have indulged in vocational training for youths in their capacity building agenda for one or more of the following reasons.

1. Human resources development of youths to fit into the various company operations.
2. To arrest high level of unemployment, seeing that it could render youths open for mischief makers to manipulate.
3. To avert youth restiveness by positively engaging youths in some vocation or another to keep them from creating mischief.

Science and Technology is an essential component of modern education. It is usually said that if you train a woman, you have

trained an entire family. This is why emphasis on training the man alone is like putting one's eggs in one basket. The women must be given opportunity, too, to embrace the study of science-based courses and become strongly relevant in the society.

Recommendations

Science and Technology are avenues through which man interacts and explains crucial subjects and ideas around him. As new grounds are being explored and broken everyday and industries emerge with the hope to strengthen the economic well being of the nation. It is, therefore, recommended that:

- (i) We change our negative attitude to the education of women which has been carried over from.
- (ii) We must endeavour to create an enabling environment that provides equal access for women to benefit from educational opportunities.
- (iii) Women should be exposed to the exciting challenges in science and technology to enable them make their own contributions to national development.

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