

# The Universal Basic Education (UBE) Programme and Women Entrepreneurship in Science and Technology: a Catalyst for Enhancing Female Participation in National Development



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## ABSTRACT

*This paper discussed how UBE programme could be used to promote women entrepreneurship in science and technology with the resultant effect of enhance female scientists' participation in National development in Nigeria. Relevant literature on – UBE programme, Entrepreneurship, women entrepreneurship and women scientists were thoroughly reviewed. Militating factors against women scientists' entrepreneurship in Nigeria were established. Based on these factors, suggestions for encouraging and promoting women scientists' entrepreneurship were suggested. Amongst are: encouragement of female education in science and technology, socio-cultural perspectives, proper networking of successful women in science and technology in order to serve as mentor to others.*

## **Introduction**

The idea of UBE started from the world conference on Education For All (EFA) which was held in Jomtien, Thailand from 5<sup>th</sup>-9<sup>th</sup> March, 1990. The conference was organized by the World Bank, UNDP, UNESCO and UNICEF; came up with a document entitled “World Declaration on Education for ALL and Framework for Action to meet Basic Learning Needs”. Since this placement became a sort of blueprint for all countries of the world, Nigeria cannot afford to be an on-looker. Hence, in Nigeria, the Universal Basic Education (UBE) programme was launched formally by the President, Chief Olusegun Obasanjo on 30<sup>th</sup> September, 1999. The programme is expected to be universal, free and compulsory in Public Primary and Junior Secondary Schools. UBE (2004) documented that UBE programme is a nine year basic educational programme which has the intention of eradicating illiteracy, ignorance and poverty as well as stimulating and accelerating national development, political consciousness and national integration. Tahir (2002) opines that the overall aim of UBE is to make basic education accessible to all target groups.

Oyewobi (2000) viewed the UBE programme as a double-edged sword which in the first instance is directed towards producing qualified boys and girls who are capable of going to higher Schools and Colleges to be trained for various services that the Country needs for development. In another token, he also submitted that it could be seen as a programme designed to help those who could not go to Higher Schools and Colleges to become good and intelligent citizens who would assist in developing the communities. According to Okiy (2004) the introduction to UBE programme is seen as a catalyst which will result in greater female participation in National development. She went further to opine that the scheme sets out specifically to redress the gender imbalance which has been evident in the Nigerian educational landscape.

The objectives of the UBE programme are as presented:

1. Developing in the entire citizenry a strong consciousness for education and strong commitment to the vigorous promotion.
2. The provision of free universal basic education for every Nigerian child of school going age.
3. Reducing drastically the incidence of dropout from the formal school system (through improved relevance, quality, and efficiency).

4. Catering for the learning needs of young persons who, for one reason or another, have had to interrupt their schooling through appropriate forms of complementary approaches to the provision and promotion for life-long learning.

The factors for ensuring the achievement of the objectives are as follows:

- a) Public enlightenment and social mobilization, for full community involvement.
- b) Data collection and analysis.
- c) Planning, monitoring, evaluation.
- d) Teachers: their recruitment, education, training, retraining, motivation.
- e) Infrastructural facilities.
- f) Enriched curricular
- g) Textbooks and instructional materials.
- h) Improved funding and,
- i) Management of the entire process.

Justifying the need for basic education, Denga (2000) opines that basic education goes beyond literacy and numeracy. He further states that it embraces all kinds of basic knowledge and skills necessary for an individual to live a useful and contented life. Hence, he suggested that children must be encouraged to develop a scientific outlook and rudimentary understanding of the natural and social environment.

The role of women in National development cannot be over-emphasized. Also, the place of science and technology is central to National advancement. No doubt, a country's level of Scientific and Technological advancement dictates the life style and future of her citizenry. This assertion made Wambusu (2005) to opine that science-led development is one of the major strategies in the war against what seems to be the African region's endless hunger, poverty and ill-health. In addition, increased focus on formal and informal education, new technology, empowerment of women, gender and sustainable development will undoubtedly bring the developing world closer to the developed world and reduce the huge economic gap (Naugah 2003).

The role of Science in the advancement of human beings in issues relating to public health, water, infrastructure, energy, food, security, environment and development is a prominent one. It stands to reason

therefore that as the world's development becomes increasingly driven by and the pace also dictated by Science and Technology, no country can afford to be passive, Nigeria inclusive, Standing on the premise that the National Policy on Education (FGN 2004:30) which is the major education policy in Nigeria provides for every citizen irrespective of sex, age, race, religion and location to have an intellectual understanding of the increasing complexity of Science and Technology, coupled with the fact that women constitute more than half of the world population (UNICEF 1998). It is therefore imperative that such a formidable group be fully integrated in the moving wheel of high technology (Bilesanmi-Awoderu 2005). The focus of the society then should involve development that would take into consideration all segments of the population, women inclusive.

Women as a person and also as an agent of development has as much right to Science and Technology as the man. In line with this, UNESCO (1995) has documented the paramount and urgent need for education girls/women in African Countries. It is in this context that promoting women's role in Science and Technology with a view to empowering them and promoting entrepreneurial development for women scientists, engineers and technologists becomes a big issue. The UNIDO's regional typology studies on the role of women in manufacturing have revealed empirical evidence that women's paid employment and, in particular, their participation in Industrial department, improves their quality of life, literacy and life expectancy, while decreasing their fertility rate. Remunerative employment opportunities as well as entrepreneurship also enable women to fight poverty. (UNIDO, 2001).

### **The Concept of Entrepreneurship**

Entrepreneurship is the practice of starting new organizations, particularly new businesses. Entrepreneurship is often a difficult undertaking, as a majority of new business fail. Entrepreneurial activities are substantially different depending on the type of organization that is being started ([en.wikipedia.org/wiki/Entrepreneurship](http://en.wikipedia.org/wiki/Entrepreneurship)). Entrepreneurship can also be shortly defined as the willingness to take the risks involved in starting and managing a business. [www.turnerlearning.com/efts/bball/econglos.htm](http://www.turnerlearning.com/efts/bball/econglos.htm). In the same vein, an excerpt from the web page: <http://bus.colorado.edu/faculty/meyer/6700syl.htm>, documents that the

Entrepreneurship Center at Miami University of Ohio defines Entrepreneurship as the process of identifying, developing, and bringing a vision to life. The vision in this context may be an innovative idea, an opportunity or simply a better way to do something. The end result of this process is therefore the creation of a new venture, formed under conditions of risk and considerable uncertainty.

According to Di-Masi (2002), considerable effort has gone into trying to understand the psychological and sociological wellsprings of entrepreneurship. These studies noted some common characteristics among entrepreneurs with respect to need for achievement, perceived locus of control, orientation toward intuitive rather than sensate thinking, and risk-taking propensity. In addition, many have commented upon the common, but not universal, thread of childhood deprivation, minority group membership and early adolescent economic experiences as ty-pifying the entrepreneur.

Still on the uniqueness/qualities of entrepreneurs, Di-Mass (2002) listed the following as characteristics of the entrepreneurs:

- Self-confident and multi-skilled. The person who can ‘make the product, market it and count the money, but above all they have the confidence that lets them move comfortably through unchartered water’.
- Confident in the face of difficulties and discouraging circumstances.
- Innovative skills. Not an “inventor” in the traditional sense but one who is able to carve out a new niche in the market place, often invisible to others.
- Result-oriented. To be successful requires the drive that only comes from setting goals and targets and getting pleasure from achieving them.
- A risk-taker. To succeed means taking measured risks. Often the successful entrepreneur exhibits an increment approach to risk taking, at each stage exposing him/herself to only a limited, measured amount of personal risk and moving from one stage to another as each decision is proved.
- Total commitment. Hard work, energy and single-mindedness are essential elements in the entrepreneurial profile.

Classification of Enterprises is based on the kind or scale of activity and income:

- a) Survival enterprise (mostly for poor and low income women) generally involved in traditional business activity at the survival level: these could include handcrafts, food-processing, tailoring, vending, etc. for this reason some people do not consider these women to be “entrepreneurial”.
- b) Micro enterprise (mostly for poor, low and middle income women).
- c) Small enterprise (mostly for middle and higher-middle income women) (ILO 2002).

### **Women Entrepreneurship**

Women entrepreneurship is a contemporary issue of international concern. This is borne out of the fact that women empowerment is central to human development and National advancement. Ensuring or enhancing women empowerment is the business of everybody in the society. Empowerment of women entails a process of building their resource capability and skills for leadership-rights and meaningful participation in all spheres of the society (Erinosho 2005). Women entrepreneurs represent a group of women who have broken away from the beaten track and are exploring new avenues of economic participation. (Dhameja, 2002). He further advanced reasoning for women to run organized enterprises as their skill and knowledge, their talents and abilities in business and compelling desire of wanting to do something positive. Hence, if women are not marginalized and as much are actively involved in the mainstream of the National economy, it is likely that the economy becomes more stable and buoyant and consequently reduces much witnessed current economic problems.

The need to develop women’s entrepreneurship was emphasized in Beijing (1995) at the fourth World Conference on Women. The objectives are to:

- Increase the participation of women in Industry and all other sectors, particularly in the non-traditional areas, through access to advanced technologies.
- Promote, support and strengthen female entrepreneurship development.
- Encourage investments in environmentally safe products and in environmentally sound and productive agricultural, fisheries commercial and industrial activities and technologies; and

- Strengthen training opportunities for women.

However, United Nations Economic Commission for Europe (2003) reported that women entrepreneurs are less numerous than men. That is, only 9% of employed women are entrepreneur, in the Czech Republic as compared to 8.8% of men. The situation is similar in Hungary (women 9.6% and men 18%) as well as Romania ,through the proportion of self-employed women is higher due to the larger share of self-employed in agriculture (women – 17.4% and men – 32.6%). The gender gap in entrepreneurship is even higher in Shovakia and Slovenia where women's share is respectively 4.1% (men – 10.9%) and 6.5% (men – 15.3%). Most scientists during their formal training. (<http://westorg/aboutWEST/>) Women Entrepreneurs in Science and Technology (WEST) organization, an organization for women in science and technology documents the following as its vision:

- Women in science and technology should become influential role models and learn to improve the worldwide problems of poverty, health and economic growth.
- Women have demonstrated their competence in science and technology but lack recognition and influence proportional to their talents and achievements.
- West provides women and men an opportunity to leave a legacy by connecting others who are invested in sharing their expertise to improve the status of women create a more egalitarian world.

The mission of Women Entrepreneurs in Science and Technology is to advance women in science and technology to achieve successful recognition as contributors and leaders through entrepreneurial thinking. This is clearly stated as:

- Women who develop entrepreneurial skills are better suited to positions of leadership and impact.
- Women in science and technology who develop entrepreneurial thinking will be to better align their talents with business requirements to improve business performance.
- Women can apply entrepreneurial thinking to the company environment to become intrapreneurial leader (who increase business, profits, revenue and the creation of products).
- Women who think entrepreneurially can become better scientists and engineers.

Every nation has her teething problems in the implementation of UBE. Some of these problems have almost defied solutions in our educational system.

Denga (2003) acknowledged that the following problems bedeviled the 9 year UBE programme in Nigeria: Inappropriate funding. Irregular payment of Teachers' salaries, Provision and maintenance of infrastructural facilities like buildings, equipment and instructional materials, poor supervision and monitoring of the programme, no clear-cut of investment on the part of the parents, private schools and dearth of statistics on children's enrolment, number of teachers etc.

He then proffered the following as solutions to the problems:

- Provision of appropriate data banks for effective planning.
- Provision of guidance services to both the students and their parents for behavioural change of attitudes towards government/public schools.
- Government to encourage healthy partnership between them and other educational agencies in order to tackle educational funding.
- UBE should adopt a two-fold approach i.e one for school-age children and street children and the other phase for adult literacy and continuing education to acquire and develop basic skills in family management, civic participation and citizenship education.
- Educational experts, government educational institutions and non-government educational agencies should sensitize and encourage government and private sectors to demand commitment and sincerity of purpose in the implementation of the UBE so that old educational problems will not appear as new problems again.

### **UBE and Women Entrepreneurship in Science and Technology**

The UBE is a scheme which is expected to keep girls in school compulsorily for nine years with an attendant prosecution for parents and or guardians who flouts the law. The girls would then have an equal opportunity for access and participation as the boys in principle and practice. The UBE is also expected to be free; hence, girls who would have hitherto been denied access for financial incapacities would have the



opportunity of schooling. With the UBE programme in full swing and properly implemented, it is expected that Nigeria's literacy rate estimated to be 52 percents by Babalola (2000) in Eya (2000) would increase. This expectation informed the submission of Eva (2000) where he posited that since the UBE programme is an expression of the strong desire of government to reinforce participatory democracy in Nigeria by raising the level of awareness and general education of the entire citizenry female exclusive, everything necessary should be done for the successful implementation of the programme.

The focus on Universal Basic Education therefore, as a potent factor for encouraging women entrepreneurship especially in science and technology with a view to making it a catalyst for enhancing female participation in National development can be said to be worthwhile. This is borne out of the fact that females could better be encouraged right from the primary through junior secondary school so that proper monitoring, mentoring and mainstreaming could be done with a resultant effect of more females being involved in schooling and even more so, opting for the sciences and consequently being involved in women entrepreneurship in Science and Technology. This is our thesis.

### **Factors Discouraging Women Scientist' Entrepreneurship**

These factors are discussed in this paper as they relate to societal norms, funding, lack of information, low skill acquisition, lack of mentors, lack of supporting networks and low level of encouragement from spouses and families. These factors include:

- a) **Socio-cultural factor:** A major point to note here is the fact that in Nigeria, many women during the socialization process were not given enough opportunity, freedom and wherewithal to develop adequate and appropriate skills that can enable them have entrepreneurial competency. This is essentially inherent in the much created gender-related limitations which has the tendency to relegate women/females to the background.
- b) **Finance:** Poor finances and lack of adequate funds for starting enterprises are a serious problem to women entrepreneurs. Women generally are poor for lack of funds and as such do not have enough financial backing to start a good business or sustain an existing one. In this context, Carter (2000) in the web page:

<http://curopa.eu.int/comm/enterprise/entrepreneurship/craft/craft-studies/documents/womenentrepreneurs.pdf> identified four areas of financing that previous researches have noted can pose particular problem for women to be that women are disadvantaged in their ability to raise start-up finance: guarantees required for external finance may be beyond the scope of most women's personal assets and credit track record, once a business is established, finance may be more difficult for female entrepreneurs to raise than for their male counterparts, because of the greater difficulties that women face in penetrating informal financial networks and the relationship between female entrepreneurs and bankers may suffer from sexual stereotyping and discrimination. As such, majority of women business owners rely to a significant extent on self-generated finance during the start up period of their business.

- c) **Lack/Poor Access to Market Information:** Usually educated women are not many in Nigeria. Literacy level is still at the low rate in the country. As such, many market information that could have been beneficial and in essence enhance better productivity elude the women. Most are ignorant of market trends concerning costing, pricing etc and consequently could not benefit maximally from readings of price movements and fluctuations.
- d) **Lack/Poor Technological Know-how:** Low educational status of most women does not allow very many of them to have the opportunity of being technologically sound. Many technical skills that could hitherto have assisted to ensure successful enterprise and appropriate production techniques and product diversification are not possessed by many women. For this reason, it is almost impossible for them to be relevant in the current technological changes and the globalization of production.
- e) **Poor Networking/Linkage:** Women are not properly connected. Many as noted earlier are poor, uneducated and unconnected. As such, good networking or linkage for support services even when available may be beyond the reach of the women.
- f) **Mainstreaming into Arts-related courses/paucity of Women Scientists Entrepreneurs:** During schooling, many girls were

not encouraged into the sciences for reasons ranging from perception of sciences as male's domain, teachers attitude, societal belief and students' lack of interest. As such, not many of Women Scientists' could be produced. This consequently would in turn decrease the number of Women Scientists engaging in establishing business/enterprises as entrepreneurs.

- g) **Fear of losing out:** In Nigeria, women are largely responsible for household keeps such as food, water, clothing and often times their children's education. As such they are usually afraid to invest their hard earned and much needed income into businesses or enterprises for fear of failure.
- h) **Unfavourable conditions/policies:** It is obvious that many of the conditions for obtaining loans do not necessarily favour women. The conditions are usually stricter for women than for men. This indicates gender discrimination in possession of capital for establishing enterprises/businesses. Even when policies are formulated to disabuse this gender differences, the effect in practice is yet to be noticed. This view is documented by UNIDO 2001 where it was recorded that even in Mali, women entrepreneurs are faced with strong barriers to enterprise development in the prevailing laws and regulations. It further noted that obtaining licenses, registering the business in their own name, and applying for loans were nightmares they had to live with.
- i) **Lack of Mentors:** It is pertinent to note that women have not gotten many mentors that they could look up to in the area of entrepreneurship. As such, they have constraints venturing into areas that they do not know familiar females that have succeeded along that line. In the words of WEST, Woman Scientists lack business issues in their industries and also they do not have easy access to mentors and role models.
- j) **Lack/Low level of encouragement from spouses:** Men, generally enjoy to be the breadwinner of the household. They most of the time would not want their wives to be economically buoyant and independent. As such, they are not likely to encourage their wives to start businesses/enterprises that may make them economically buoyant.

## **Suggestions for Encouraging or Promoting Women Scientists' Entrepreneurship**

Against this backdrop, the paper offers suggestions for encouraging and promoting Women Scientists' entrepreneurship with a view to enhancing female participation in National development. These are presented based on previous report, research findings, and suggestions of notable researchers. Specifically, UNIDO 2001 and ILO (2002) documented essential suggestions for encouraging women entrepreneurs. The investigators contend that all things being equal, the suggestions could be of great importance in the Nigerian context. The suggestions are as presented

- a) **Social Cultural Prospects:** With the Universal Basic Education and other various intervention strategies being put in place by all the three tiers of government, to educate parents and the society at large, it is expected that enabling environment would be provided for both sexes so that during socialization process, there would be no gender gaps created. Male and female alike would be given the opportunity to acquire needed skills for entrepreneurial competency.
- b) **Female Awareness Campaign and Sensitization Workshops/Seminars:** There is an urgent need for awareness and sensitization workshops to be organized by Women organizations, Associations, Government Gender Agencies and Units, Non-governmental Agencies and Allied organizations to educate the Women Scientists' entrepreneurs of the new opportunities/developments at hand that could enable them overcome constraints and enhance the starting business/enterprise. Such examples could be got from organizations such as Women Entrepreneurs in Science and Technology (WEST) which is an organization for women in science and technology who want to become innovative leaders in their professions and enhance their career development. It promotes women with role models, programs and a community that provides opportunities for learning while fostering an entrepreneurial mindset. As a solution strategy, thinking take risks, learn how to solve problems in compelling new ways and led others to success. In specific terms, the Federal Government

of Nigeria should adopt an entrepreneurial culture among potential women and entrepreneurs and among youth in general, as the future entrepreneurs.

- c) Improvement in the Policy/legal frame-work: There is the urgent need to improve on the existing policies and legal framework in a manner that would practically reach a satisfactory level so as to encourage the female entrepreneurs. For instance, The UNIDO (2001) teams have observed that although most governments have been introducing new gender-specific laws of a general nature, gender issues were not considered in all the other laws of relevance to women's entrepreneurship development. It has also been observed that many support institutions were not aware of the gender-specific constraints of women entrepreneurs and therefore unable to address them adequately when providing the necessary services.
- d) Encouraging Female Education in Science and Technology: More females should be encouraged to study Science and Technology in Schools and Colleges. With this, they could gain access to know-how, technologies, appropriate and adequate skills, training to upgrade their technical capabilities and their entrepreneurial and business skills whether in artisan production or in high-tech industries.
- e) Encouraging Women Scientists' Networking: Women Scientists have to be encouraged to be appropriately connected. Networking is vital to the women's ability to access information, technology, markets and raw materials relevant to the development, sustainability or expansion of their business. As such, women networking Nationality and Internationally should be adequately facilitated. Successful Women Scientists' entrepreneurs should be encouraged to share their experiences, counsel on problems and encourage on prospects with up-coming women scientists.
- f) Fund/Finance: The Federal Government of Nigeria should provide adequate funds in form of soft loans for prospective Women Scientists' entrepreneurs to start-up business/enterprises and or progress in their business. She can borrow a leaf from what obtains in Sweden who created a regional resources centres for women finance by the Swedish Business, Development, Agency, which is a ProWomen

Member. The Centre aim to make women's competence more visible in society, to help them set up business and in particular to increase their participation in the labour force in non-traditional, high-tech fields.

<http://90i.cordis.in/article.cfm?article=1039&lang=En>.

## **Conclusion**

In this paper, an attempt has been made to highlight the need for women entrepreneurs in Science and Technology in Nigeria with a view to providing this through effective implementation of the UBE programme. It has been documented that if women are not marginalized and as such are actively involved in the mainstream of the National economy, it is likely that the economy becomes more stable and buoyant and consequently reduce much witnessed current problems. However, the factors discouraging women entrepreneurship in Nigeria are discussed. These factors include socio-cultural factor, finance, lack/poor access to market information; lack/poor technological know how, poor networking/linkage. Other are mainstreaming into arts related courses, fear of losing out, unfavourable conditions, lack of mentors and lack/how level of encouragement form spouses.

Against this backdrop, this paper offers suggestions for encouraging and promoting Women Scientists' entrepreneurship. These include socio-cultural prospect, female awareness campaign and sensitization workshops, improvement in the policy/legal framework, encouraging female education in Science and Technology and provision of adequate fund. In addition, networking should be encouraged where in successful Women Scientists' entrepreneurs could share their experiences, counsel on problems and encourage on prospects. It can therefore be projected that if the UBE programme is well implemented with all the solutions suggested taken and effected, it is possible for Nigeria and indeed Africa to achieve basic education for all as a reality and not a myth and even moreso, for women especially in the area of women entrepreneurship in Science and Technology and consequent higher participation in National development.

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