

## **Women Mathematics Education as Synergy for Achieving the Millennium Development Goals (MDGs) for Sustainability**

**<sup>1</sup>Bessong, Fidelis Ejar & <sup>2</sup>Felix Ojong**

<sup>1</sup>*Department of Mathematics, Cross River State College of Education-Akamkpa*

<sup>2</sup>*Department of Sociology, University of Calabar*

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### **A b s t r a c t**

**I**t has been said “If you educate a man, you educate an individual, if you educate a woman, you educate a nation.” Women play multiple roles in the society. The education of a woman opens opportunities for partnership with the men in the overall development of the nation. On the basis of the above exposition, the paper discusses the concepts of women Mathematics Education. Millennium Development Goals (MDGs) and sustainability, in the addition to the above, the paper also advances ways in which women education can help in achieving the Millennium Development Goals (MDGs).

**Keywords:** *Women, Education, Synergy, Sustainability, Millennium Development Goals*

*Corresponding Author:*      **Bessong, Fidelis Ejar**

### **Background to the Study**

Nigeria like any other country has adopted education as means of national development. The National Policy on Education (2004) explains education as the process that helps to develop the whole man physically, mentally, politically, socially and technologically. Education, therefore, is the greatest investment that any nation can provide for the quick development of its national and human resources. Recognizing the importance of education, the Federal Government of Nigeria through the National Policy on Education (2004) advocates for equal educational opportunities for all her citizens without giving any preference to any particular sex. Since education brings about the development of any nation.

Women Mathematics education has a great role to play in the development of any nation mentally, socially, morally, politically and economically. Education serves as an instrument for women to acquire various skills which will help them participate fully in the job market and social upward mobility. Women Mathematics education according to Afebedeugbe (2006) is that education which make women aware of themselves and their capacity to exploit their environment. Babolola (2008) views women education as that type of education (Arts, Science and Technology) geared towards the development of the total personality of the woman in the society. Such education will promote the development of the whole nature of women physically, intellectually, and morally and also make them important participating members of the society i.e. the type of education that will avail women an enhanced opportunity to imbibe positive civic attitudes as nationalism, tolerance and respect for the constitution.

### **Objectives of the Study**

The United Nation Education Scientific and Cultural Organization (UNESCO, 1995) outlined the objectives for women education as:

1. To enable women improve their family's health and diet
2. To increase women's productivity ability, thus raising their families standard of living.
3. To give women access to appreciate technologies and management of cooperatives.
4. To improve women's social and cultural states
5. To enable women discharge their responsibilities more effectively
6. To help women fight their own fears and feelings of inadequacy or inferiority.
7. To develop them in all rounds, that is mentally, socially, physically, psychologically, religiously and economically.
8. To make women participate fully in line with the affairs of their nation and be the centre of sustainable development.
9. To make women to acquire their own basic needs of the society like food, shelter, fuel cloths and nourishing.
10. To enhance national development and human development.

## **Conceptual Literature**

### **What is Sustainability?**

Sustainability is improving the quality of human life while living within the carrying capacity of supporting eco-system. It is also a call to action, a task in progress or “journey” and therefore a political process (Wikipedia, 2011). In another dimension, sustainability is taking the long-term view of how our actions affect future generations and making sure we do not deplete resources or cause pollution at rates faster than the earth is able to renew them (Sustainability Store, 2011). In addition, sustainability simply means capacity to endure (sustainability, 2011).

### **What are the Millennium Development Goals (MDGs)?**

The Millennium Development Goals (MDGs) are the World's time-bound (2015) set of eight (8) goals adopted by the Millennium Declaration in September 2000. They were agreed upon by the UN in September 2000 and seek to deliver a global compact between rich and poor nations that underscores basic human rights to all people (FME).

Biao (2007) views Millennium Development Goals as the human development agenda which is not only environmental friendly but includes efforts aimed at maintaining a life-sustaining environment. Each of these goals has a target and spelt out indicators as how to evaluate the achievement of each of the goals of the Millennium Development Goals (MDGs) agenda. The Federal Ministry of Education has the following as Millennium Development Goals, the targets and indicators:

#### **Goal 1: Eradicate Extreme Poverty and Hunger**

**Target 1:** Halve between 1990-2015, the proportion of people whose income is less than a dollar a day.

##### **Indicators**

1. Proportion or population below one dollar a day
2. Poverty gap ration (the incidence and depth of poverty)
3. Share of poorest quintile in national consumption.

**Target 2:** Halve between 1990 and 2015, the proportion of people who suffer from hungry.

##### **Indicators**

4. Prevalence of underweight children under five years of age.
5. Proportion of population below minimum level of dietary energy consumption.

#### **Goal 2: Achieve Universal Basic Education**

**Target 3:** Ensure that by 2015, children everywhere, boys and girls alike will be able to complete full course of primary schooling.

##### **Indicators**

6. Net enrolment ratio in primary education
7. Proportion of pupils starting grade 1 who reach grade 5.
8. Literacy rate of 15-24 years.

### **Goal 3: Promote Gender Equality and Empower Women**

**Target 4:** Eliminate gender disparity in primary and secondary education preferably by 2015, and in all level of education not later than 2015.

#### **Indicators**

9. Ratio of girls to boys in primary, secondary and tertiary education.
10. Ratio of literate women to men 15-24 years old.
11. Share of women in wage employment in the non- agricultural sector.
12. Proportion of seats held by women in national development.

### **Goal 4: Reduce Child Mortality**

**Target 5:** Reduce by two-thirds between 1990 and 2015, the under-five mortality rate.

#### **Indicators**

13. Under-five mortality rate
14. Infant mortality rate
15. Proportion of 1 year old children immunized against measles

### **Goal 5: Improved Maternal Health**

**Target 6:** Reduce by three quarters, between 1990-2015, the maternal mortality ratio.

#### **Indicators**

16. Maternal mortality ratio
17. Proportion of births attended by skilled health personnel.

### **Goal 6: Combat HIV/AIDS, Malaria and other Diseases**

**Target 7:** Have halved by 2015 and begun to reverse the incidence of HIV/ AIDS

#### **Indicators**

18. HIV prevalence among pregnant women aged 15-24 years
19. Condom use at high risk sex
- 19a. Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/ AIDS.
- 19b. Proportion of population aged 15-24 years with comprehensive correct knowledge of HIV/ AIDS.
- 19c. Contraceptive prevalence rate
20. Ration of rate attendance of orphans to school attendance of non-orphans aged 10-14 years.

**Target 8:** Have halved by 2015 and begun to reverse the incidence of malaria and other major diseases

#### **Indicators**

21. Prevalence and death rates associated with malaria.
22. Proportion of population in malaria risk areas using effective malaria prevention and treatment measures.

23. Prevalence and death rates associated with tuberculosis
24. Proportion of tuberculosis cases detected and cured under Directly Observed Treatment Short course (DOTS)

**Goal 7: Ensure Environment Sustainability**

**Target 9:** Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources

**Indicators**

25. Proportion of land area covered by forest
26. Ratio of area protected to maintain biological diversity to surface area.
27. Energy use (kg oil equivalent) per US\$1 GDP (PPP).
28. Carbon dioxide emissions per capital and consumption of ozone depleting CFCs.
29. Proportion of population using solid fuels.

**Target 10:** Halve by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.

**Indicator**

30. Proportion of population with sustainable success access to an improved water source, urban and rural.

**Target 11:** By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers

**Indicators**

31. Proportion of population with access to improved sanitation, urban and rural
32. Proportion of households with access to secure tenure

**Goal 8: Develop a Global Partnership for Development**

**Target 12:** Develop further an, open, rule based, predictable, non-discriminatory trading and financial system includes commitment to good governance, development and poverty reduction nationally and internationally.

**Target 13:** Address the special needs of the least developed countries included: tariff and quota free access for the least developed countries' exports; enhanced program of debt relief for heavily indebted poor countries and cancellation of official bilateral and more generous ODA for countries committed to poverty reduction.

**Target 14:** Addresses the special needs of landlocked developing countries and Small Island developing states (through the Program of Action for the Sustainable Development of Small Island Developing States and the outcome of the 22<sup>nd</sup> special session of the General Assembly).

**Target 15:** Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term.

**Target 16:** Inco-operation with developed countries, develop and implement strategies for decent and productive work for youths.

**Target 17:** In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.

**Target 18:** In cooperation with the private sector, make available the benefits of new technologies, especially information and communication.

### **Ways which Women Education can help achieve the Millennium Development Goals (MDGs)**

Women education has a lot to offer in the progress of the MDGs. Education is the greatest asset one can have. Women education cannot be without a purpose. Looking at all the eight (8) goals of MDGs, the easiest way of achieving these goals is through the help of the woman. Educate a woman you educate the nation, but educate the man you educate an individual.

Each of the Millennium Development Goals has been provided with a target as well as with an indicator. But how do we achieve these goals? Goal 1 seeks to eradicate poverty and hunger. An educated woman who is opportune to obtain a good job, does better financially by contributing to the wellbeing of her family as well as that of the nation. Thus, she can contribute immensely to the economic development of her nation. Nevertheless, education aims at economic independence since one who is educated has the opportunity of either being employed or being self-employed. Therefore, if every woman is educated, poverty and hunger will definitely be eradicated because the educated woman if not being employed will be self-employed for the betterment/development of her family or her nation.

Goal 2 aims at achieving the Universal Basic Education. Ezeani (2006), views education as a life-long process through which individuals acquire and the relevant skills and knowledge which enable them to be useful to themselves and the society. An educated woman who knows the overall benefits of education will surely release her children and wards to formal education. Thus, she will not only encourage and enroll her children in school but also carryout enlightenment/awareness campaigns in neighborhood and their communities as regards the need for Basic Education.

Goal 3 calls for promoting gender equality and women empowerment. Gender equality refers to the equal valuing of the roles of women and men. It works to overcome the barriers of stereotypes and prejudices so that both sexes are able to equally contribute to and benefit from economic, social, cultural and political developments within society (Global Education, 2011). The fourth World Conference on Women, held in Beijing in September 1995, produced an important human rights document concerning women and

female children, the Beijing Platform for Action. The objective of the Platform for Action is the empowerment of all women. In Nigeria today, there is still gender disparity. Men are more favoured than women in some respects. Some parents still hold onto the old thinking of not educating the female child. Even in the area of politics women are marginalized. One of the ways to abridge these gaps is to educate the women. Empowering the women ensures the development of women's productive and reproductive roles into account. The society, should therefore, ensure that programmes and policies at all levels incorporate a gender perspective and address women's problems.

Goal 4 seeks to reduce child mortality. A report of the United Nations Children's Fund (UNICEF) Nigeria, claims that every single day, Nigeria loses about 2,300 under-five children with new born babies making up 25 percent of the number. According to this report, the major cause of death is malnutrition. In addition, the same report states that "preventable or treatable infectious diseases such as malaria, pneumonia, diarrhea, measles and HIV/AIDS account for more than 70 percent of the estimated one within under-five deaths in Nigeria." It is not the child that is born that will reduce its own mortality but the society, through our educated women.

The first person the child comes in contact with is the mother. Education helps mothers make better choices in range of areas such as personal hygiene, nutrition and parenting approaches. More so, educated mothers take better care of their own health when pregnant and after childbirth. Much more, educated mothers, accept and adopt advances in global which curb the high rate of child mortality.

Goal 5 aims at improving maternal health. Women are home managers who take their time to see to the well-being of every member of the family. The woman with the education she has acquired both at home and school has a better knowledge of healthy living. The nation will be healthy because women are more knowledgeable in the diet best needed by her family. If the family is healthy, the nation will be healthy and this will bring an all-round development in the society and the nation at large. The citizens will be sound and mentally sound to bring about scientific and technological development. Less money will also be spent in medication.

Goal 6 seeks to conduct HIV/AIDS, malaria and other diseases. It is one thing to have laws and policies but the most important is the effective implementation of these laws and policies. Women are endowed with special techniques on how to pass knowledge to their children/wards. Women spend more time with their children and are therefore responsible for inculcating the norms of the society to them. In addition, morals are also taught to children by their mothers. This training they receive helps the children to relate to others and become law abiding citizens. A law abiding citizen will do things as they are supposed to be done, then diseases of any kind will be prevented and we will have a healthy society. When the society is healthy we will be prevented and we will have a healthy society. When the society is healthy we will have wealthy society that will attract investors from other countries to invest in our country.

Furthermore, women through their roles as mothers are better peace-makers. They mediate and resolved conflicts that try to tear the nation apart. A nation that is threatened with riots, ethnic clashes and violence lags behind economically, socially, thereby leading to under-development of the nation. To achieve these Millennium Development Goals (MDGs) efforts must be made to educate women on conflict and conflict management at the three tiers of Government.

More so, ensuring that agriculture is practiced in sustainable ways; the female farmers need to receive courses or training in agricultural related matters. However, still on environmental healthy, more than half of Nigerian women cook with wood, crop reduces or untreated coal, exposing women and children to indoor air pollution this result in a number of health diseases such as respiratory infections and even blindness.

### **Conclusion**

Education helps an individual claim his right and realize his/her potential in the economic, political and social arenas. It is also the single most powerful way to lift people out of poverty. Women with access to education not only vastly improve their own lives but also bring change to their families, economic and societies. Providing women with quality education is highly effective tool to achieving the Millennium Development Goals (MDGs) by the year 2015.

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