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ABSTRACT

A high quality Mathematics Education programme is that which is relevant and adopted to the changing needs of the society. This paper highlighted the role of Mathematics Education in the development of the individual and the nation for sustainable growth and self-reliance. Also the challenges militating against these were over ambitious mathematics goals/objectives, methodology/plan. Etc. Recommendations were made that federal, state and the stake holders should ensure that mathematics Education programmes are trial tested before full-scale implementation. Teacher training institutions should ensure that prospective mathematics teachers were well and adequately prepared both in content and pedagogy.

INTRODUCTION

Promoting quality basic Mathematics is a global challenge all over the world. The reason for such a focus pertains to the ultimate human right to quality life improvement. As a matter of fact, the fundamental right to life by implication specifically translates to the right to quality Mathematics Education. Agencies such as Schools Mathematics Curriculum, National Mathematical Centre, Ministry of Science and Technology, polytechnics etc were targeted and set-up because they are appropriate means that can ensure positive transformation of basic Mathematics Education.

THE ROLE OF MATHEMATICS EDUCATION IN THE DEVELOPMENT OF THE SOCIETY.

It is no doubt that, Mathematics is pervasive in this modern world of science and technology. This is because, according to Adetula (1989). Mathematical competence is vital to every individual's meaningful and productive life. Thus, outstanding Mathematical ability is a precious societal resource, solely needed to maintain leadership in a scientific and technological world. Also Abdullahi (2007) buttressed this that, science and technology have become the instruments for the formation of national development and productivity. Therefore, we must give maximum priority to Science, Technology and Mathematics.

Similarly, Wasagu (2007), Itama (2007), Ifamuyinwa (2007) all agreed to the fact that knowledge of mathematics equip the child with necessary skills needed for solving related mathematical problems in daily life. Hence, the strategic position occupied by school mathematics could be attributed to the virtue of its extensive and practical applications, and the esthetic appeal of its methods and result. For instance, the primary and secondary school mathematics curriculum, according to Adetula (1989) is very ambitious in terms of content and context. If well taught, it will provide every learner with the opportunity to choose among full range of future career paths. Be it in Sciences,

Engineering, Agriculture, Business, and Commerce. Hence, it is reasonable to say all professionals are engaged in Mathematical reasoning to carry out their job effectively. Also, if well taught, it is a subject of beauty, elegance and exciting in logic and coherence. The result of its learning helps the learner in the development of habit of accuracy, logic, systematic and order in the arrangement of information. Consequently, it makes the mind of the learner to be analytic as it provides him with the information for intelligence and precise reflective thinking. It also enables him to make good decision making about life problems and prepares him for adult-life.

For any meaningful development to take place in this era of Science and Technology, its citizenry must be mathematically literate. This fact was buttressed by several writers for example, Odili (2006) opined that, it is not surprise to discover that the most effective and unparalleled accomplishment of human being is founded in his effort to utilize his mathematical reasoning. Also, Ezeilo (1975) in Odili (2006) said that, there can be no real development technologically without a corresponding development in mathematics both as conceived and in practice. Others like Wasagu (2007) said, the present categorization of nations into develop, under develop, poor or rich etc is rather scientific or technological. It means scientifically and technologically literate society. In other words, literate society and illiterate society in Science, Technology and Mathematics which are seen as the fundamental basis for economic growth, sustainability and self-reliance.

SUSTAINABLE GROWTH, SELF-RELIANCE AND MATHEMATICS EDUCATION

Several definitions have been given of sustainable growth or development. In this paper, sustainable growth is perceived as all what humanity and nature requires for their existence both at the present moment as well as in the future. According to Ogunyemi (2004) the world commission on environment (WCED) has amplified sustainable growth to integrate issues of economic growth, social development and environmental protection, hence, it suggests that sustainable development is anchored on three pillars: Namely, improvements in environment, economy and society. When they attain a balance or equilibrium for the betterment of man.

Similarly, Musa (2006) Opine that Mathematics of the present generation is a sophisticated intellectual activities. Hence it is very difficult to be defined considering the category of audience. In other words, the users and values of mathematics to the individual and society are numerous. However, in this age of science and technology the knowledge of Mathematics is a need and powerful tool for the development of nation-as mentioned earlier. The individuals learn mathematics, uses it to develop Science and Technology which brings sustainability and motivation in promoting or improving in quality of life. This can be assured if only there is balance in the physical, mental and emotional growth of the individual and the nation at large.

In the light of this, sustainable growth or development in Mathematics Education should be understood beyond the traditional view of Mathematics Education which focuses merely on dissemination of knowledge rather Mathematics Education should be seen as a process of sustaining growth in our system of thinking which requires creativity, flexibility and critical reflection in all our fields of endeavors.

Despite the significant role played by the knowledge of mathematics in the development of individual and the nation, a great number of students opting for Science, Technology and mathematics over the past years have been deteriorating to the extent

that certain policy issues have been affected. In particular, the 60:40 admissions for science and Art students at university level and 70:30 at polytechnic level. Musa (2006) and Abdulahi (2007) said, this is worst with Mathematics. In particular, Musa (2006) specifically reported that development stage of Nigeria from 1960 to 1990, one can notice little growth and very small development not commensurate to resources the nation was able to generate within the same period. He concluded that it is appropriate to assess our present level of development by comparison with UNDP goals. Example, can UBE program be successful and different from UPE?

What are the roots of our Mathematics Impotency.?

There is no doubt in the fact that, our most serious Mathematics Education disability has to do with creative Mathematical application. The question is what could be responsible for this? In this paper the following areas will be highlighted.

MATHEMATICS EDUCATION GOALS/OBJECTIVES.

For any high quality Mathematics Education programme to be effective and viable in order to sustain the growth and self reliance of any nation it must have well formulated and measurable goals/objectives. It has been clearly stated in the objectives of sustainable growth as formulated by the WCED and reported by Oguniyi (2004) that the preoccupation of sustainable growth should be ensuring that every one that is able and willing acquires understandable knowledge and apply it progressively throughout life.

This is also one of the goal or objectives of mathematics Education at primary and secondary school level in Nigeria as formulated in the National policy on Education (NPE, 2004).

However, Shortcoming in not achieving this goal/objectives will no doubt affect the failure of such efforts. Especially, with our Concentration virtually on acquisition of basic concept and principles of which emphasize traditional method (ie rote learning) without laying emphasis on facilitating application of such knowledge at solving the ever increasing problems of life that emanate from the community we may find ourselves. Moreso, when the ultimate goal or purpose of mathematics knowledge/Education is to ensure better living.

PLAN/METHODOLOGY,

The introduction part of this paper highlighted the utilization, functions and attendant intrinsic beauty of mathematics knowledge. The objectives and goals and what methods to be we adopted to ensure speedy and effective realization of these goals/objectives. In Nigeria, it is common practices to lift adopt the methods used by the developed countries a time with little modification. In this way, we are creating a 'gap' in our unique culture and environmental potentials. For instance, Shirley (1988) reported that Nigeria is home to people speaking nearly four hundred language and this makes it a good location for comparing the counting system in different languages. In addition, our real counting systems help makes the mathematics lesson more immediately relevant to the learners. The question is, don't we think that there is the need for us to consider all the dynamics within our cultural environment that could motivate Nigerians into creative sustainable growth and self reliance within the limits of her environment and genetic potential? In support of the above, Odili (2006) Opined that, the method by which the teacher presents his/her material to learners may promote or hinder learning. It may also

sharpen mental activities, which are the basis of social power, or else it may hinder initiative and curiosity thereby making self reliance and survival difficult.

INSTRUMENTS:-

No matter how laudable are our objectives and plan, on themselves are not enough in themselves. If the instrument for carrying-out the plan are deficient in both quantity and quality. Here, instruments are both the human and material resources. Many reports continue to indicate that the significant persons meant to implement Mathematics Education are either lacking or inadequate in our schools. In some situations, mathematics teacher were prepared without adequate knowledge and understanding of the local conditions where he might be call-upon to work. Is he going to work in a developed and affluent community or in less urbanized and even poverty stricken communities who often lacking totally inadequate infrastructures-such as dilapidated classroom or leaning under trees, without adequate learning materials including computers.

EVALUATION

Having taken the pain to go through stages 1-3 above, the next line of action is look at Evaluation. Evaluation requires a comprehensive assessment of the entire aspect of the programmes. These include, the learner; the mathematics teachers' competency (both in content and pedagogy), the environment and other vital organs that may have influence the successful or otherwise of the programme. This is done to achieve the derived goals/objectives. Doing this helps to save the individuals and groups involved. It also helps the hardship of wasted time, energy and resources. The question here is how effective or are the evaluations conducted in mathematics education programmes both at

The local and national level? Mathematics Education involves the determination of values and worth of thing and it implies making decision. It involves determining the value and worth of outcomes, instructional situations programme effectiveness and products of learning. In this regard, the following questions arises which must be answer.

1. Are the assessment methods adequate and appropriate to critically assess the implementers?
2. Are the assessment tools appropriate and adequate to allow for the release and utilization of their creative potentials and equally prevent examination malpractices?

Precise answers to these questions would help in no small measure in meeting challenges in mathematics education in Nigeria.

RESEARCH AND RESEARCH APPLICATION

It is quite obvious that National Mathematical Centre, Abuja, Mathematical Association of Nigeria (MAN) and other related agencies are actively involved in the conduct and information dissemination about observers in Mathematics Education in Nigeria through training and re-training of mathematics teachers, conferences, seminar and workshops and book review and publishing. However, they can still do better particularly among the primary and secondary school teachers. This biggest challenge is still there for lack of effective application and utilization of research findings, i.e by the primary and secondary school teachers in his teaching and learning situation. If this is taken care of adequately, it is bound to lead to a sustainable growth and self reliance in all field of endeavour for a better living now and in the future.

CONCLUSION:

From the above, it is apparent that Mathematics education is the sustainable growth and self reliance. In other words, mathematics is the mirror civilization, that is, the former and present civilization live on the fruit of math and also, the future civilization will depend on mathematics. This is because Math provides the foundations of a country development process through science technology. It is through mathematical knowledge that the values and skills for society, managing and sustaining growth and self-reliance are acquired.

Therefore this paper has highlighted some of the challenges in Math Education in Nigeria for sustainable growth and self-reliance.

RECOMMENDATIONS.

1. For Nigeria to meet-up with UNDP Developmental goals of sustainable and self reliance,(200-2015) Factors militating against Mathematics Education s addressed by Governments and other stake holders.
2. The Teachers training institutes should ensure that prospective mat teachers are well prepared both in context and pedagogy
3. The Government should have the political will to succeed in its develop growth and self-reliance effort only if it can learn from past mistakes and borrow best practices from cultures of its people.

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