

OVERCOMING ECONOMIC CRISIS IN NIGERIA THROUGH BIOLOGY EDUCATION

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Abstract

This paper considers Biology education as a means of overcoming economic crisis in Nigeria. It discusses the importance of education to national building, the meaning, causes and consequences of economic crisis in Nigeria are listed out. Implication for overcoming economic crisis in Nigeria through biology education are enumerated which covers areas like medicine (health), agriculture, population control, food production among others. Lastly, the paper concludes that biology education is a way out of economic crisis in Nigeria.

Keywords: overcoming, economic, crises, biology, education, Nigeria.

Introduction

This study reveals the values of biology education vis-à-vis the Nigeria current critical situation of chaos. Education according to Tinam (1998), is one of the instrument by which individuals are equipped to participate in the socio-economic and political life of a community and to make their contributions promotion of social change. Biology education is so important in nation building considering the role it plays in furnishing individuals with knowledge, skills, attitude and abilities to fit in and make reasonable contributions in the society (Ukpai 2020). Biology is a popular subject among secondary school students due to its nature. It addresses the needs of majority of the students through its relevance and functionality

in content, practice and application. It is unfortunate however, that there is a glaring disconnected between what is learnt in schools and what students practice at home or out of school.

Economic Crisis and Biology Curriculum in Nigeria.

During pre-independence (colonial era) when schools were mainly under the supervision of the missionary, education was mainly to prepare scholars for white cover jobs. Science and technology were neglected totally. Not until when education came under government supervision in about 1882, the curriculum was expanded to include arithmetic to prepare missionary attendants for book – keeping and

office clerks (Igwe 2003). Science was fully introduced as a formal school subject in CMS Grammar school in 1959 as a general study of nature and emphasis was on awareness of the environment and hygiene. The teaching of science started growing from the rural science to the general science and now to applied sciences. As a tool for economic growth, the curriculum has gone through a number of modifications/reforms and has recorded improvements. Yet science and technology still face great challenges by intercontinental trends (Abonyi and Okoli 2009). Although government support for science today in secondary schools is intensified, yet it is note-worthy to say that not enough has been done in science education in Nigeria. The curriculum still not adequate to meet the challenges facing the country. In an attempt to rectify the defect in the curriculum, some concerned bodies such as the Science Teachers Association of Nigeria (STAN) and Comparative Educational Research Development Council (NERDC) were able to fashion more viable curriculum and resources for science (biology). Through a number of conferences and workshops STAN has achieved greatly in curriculum development in science and in providing resources for effective instruction in science. More so, the National Planning Commission (2004) on acknowledging that education must be used as a vital transformation tool and unavoidable instrument for socio-economic empowerment, pointed out the inadequacy of our existing curriculum. The challenge made the commission to come up with the National Economic Empowerment and Development Strategy (NEEDS). Science the lurching of the NEEDS nothing tangible has happened to the curriculum which the commission pointed out as been inadequate. Part of the problem we are facing today in the country is inability of the government to carry out programs and policies meant to help the country as a whole. The economic crisis has worsened in Nigeria because of negligence (on the side of the government).

Biology being one of the science subjects is not left out. The curriculum is

designed to provide students with the knowledge of the key concepts in biology, to promote their knowledge of the world around them, as well as develop broadly applicable skills such as problem solving, communication, critical thinking and objective reasoning ability to prepare the students for work place and self – sustainability in the world economy (Federal Ministry of Education (FME), 2008). The biology curriculum as a teaching subject has been summed up into four main objectives from National Policy on Education (FRN 1998). These include:

- ü Adequate laboratory technique / field skills in biology.
- ü Meaningful and relevant knowledge.
- ü Ability to apply scientific knowledge to everyday life on matter of personal and community health and agriculture.
- ü Reasonable and functional attitude.

Concept, causes and Consequences of Economic Crisis in Nigeria.

The term economic crisis (or Meltdown) can be define as a situation where there is a recession in nations economic activities, a situation where the word's economy seems to be standing on its head (Kumuyi 2010). Over the years, global economic system has continued to take a downward slide (or as commonly said experiencing a meltdown) many businesses have collapsed and countless workers have been laid off. Many countries are owing so much money that the possibility of paying their debt is in doubt (Nigeria is the chief among them). National resources are dwindling, the money market is in shamble, and human life is been threatened by famine, poverty, , security challenges every way ecological and atmospheric disaster. Budgets have tightened, and prices of commodities are persistently on the increase. So severe is the situation that leading economist has termed it the worst economic crisis since the great depression of 1930s. Experts link the imparts of the global financial crisis on West African's economies to the excessive reliance on the US dollar in foreign exchange (Rafiu 2009). In Nigeria in particular, a lot of factors are said to have contributed to the

economic crisis. Rafiu (2009) attributed the crisis to the following factors.

- Ø Over dependence of the nation on petroleum as a source of income. According to Soludo the former CBN governor, central bank of Nigeria (in Rafiu 2009), Nigeria get over 95% of revenue from oil.
- Ø Resources mismanagement (not just petroleum but natural gas as well), countries like Malaysia and Singapore in the 1970's had the same revenue with Nigeria but today make more than 11 times the revenue of Nigeria
- Ø Niger-Delta militant activities: this factor has worsened the situation as the Barrels of crude produced per day have dropped due to militant activities in vandalizing the pipe line, kidnaping, stopping operations and damage to oil wells.
- Ø High rate of importation: this has been a great menace to the Nigerian economy as many communities are imported and on the long run, other economies benefit from Nigeria. For example, many electronic products are imported from China.
- Ø The debt game (on all levels). Nigeria as a country is still heavily indebted to the World Bank and international monetary fund (IMF).
- Ø The changing dynamics of over population has also affected the nation's economy because adequate plan have not been put in place for the nations increasing population.
- Ø Outright corporation greed exhibited by various companies and service providers also has a major contribution to the economic situation in the country.
- Ø National relocation of employment and changing of means of labour also have a part to play. Many people are migrating to major cities like Abuja, Lagos and Port Harcourt causing these cities to be overpopulated and few people are left to farm in other states.
- Ø US dollars increase rate: the rate at

which dollar is increasing against naira on daily basis is alarming. The value of naira is coming down every second and the prices of commodities are very high, things are getting out hand the country.

- Ø Neglect on agriculture: Nigeria for long has shifted attention from farming. Only few people are into farming due to how farmers are treated and regarded as low income people. The few who are into farming lack the fund and manpower to do better. Majority are peasants who only farm to take care of their immediate family There is little or no mechanized farming in the country.
- Ø Growing gap between the elite and impoverished also has its fair share on the nations' economic meltdown. Other factors are erosion of human dignity and erosion of dignity of life.
The economic crisis in Nigeria is affecting everyone. Rafic (2009), Kumuyi (2010), enumerated the consequences to include:
 - Increased unemployment, decreased consumer and business spending and declining stock prices.
 - A fall in the world stock markets, large financial institutions have collapsed or been bought out and government in even the wealthiest nations have had to come up with rescue packages to bail out their financial systems while Nigeria is left out.
 - Securities on the global stock markets are suffering huge losses; a large number of investors are rendered bankrupt and others heavily indebted.
 - Increase in poverty rates in many nations and many families are languishing in distress and despair.
 - Many countries are owing so much money, natural resources are dwindling, the money market is in disarray
 - Human life is threatened by famine, hunger, epidemic and pandemic diseases, ecological and atmospheric disasters are on the increase, Commodities' prices are doubled.

Families are the hardest hit because families are what make up a nation.

• Kumuyi (2010), advised that these realities call for every one's hands to be on the spindle, so as to overcome the crisis before us. And that calls for more attention to education, the basis of any nation's development and sustainability.

Implications for Overcoming Economic Crisis in Nigeria

According to Perry and Down (1992), science (Biology) education is the most powerful force for change in the world today and Nigeria as a nation. Education reduces poverty by providing everyone with choices and opportunities to create better life for themselves. Biology education contributes to the quality of life in so many areas such as: health, nutrition, agriculture, transport, material and energy, food production and industrial development. It ensures that the air we breathe, and water we drink are life sustaining and vectors of diseases are dealt with (Akpan 2009). Biology education has therefore become a crucial factor/tool for sustainable development worldwide because it encroaches into every area of human endeavor. It has contributed immensely to the progress of the nations. Thus, in a country like ours, issues of biology education are of considerable importance for economic prosperity. Looking at the problems and causes of economic crisis in Nigeria, we can find means of overcoming the problems through biology education.

In medicine, most of the prescribed drugs in use today are derived from living organisms (plants, animals, bacteria, fungi) around us. For example, the rosy periwinkle, the penicillin derived from a fungus, certain species of bacteria and other organisms are used in producing drugs (antibiotics). The blood of horseshoe crabs contains a substance used to ensure that medical devices such as pacemakers, surgical implants and prosthetic devices are free of bacteria. Nigeria is blessed with a lot of raw materials which can be managed biologically to produce drugs and other necessary products that are of benefit to man. All the above mentioned do not only promote good health, but also provide employment opportunities to Nigerians,

encourage industrialization, and reduce importations, thereby generating income to individuals and the nation at large.

In Agriculture: Most Nigerian food crops (Wheat, Corn, Rice) cultivation would have collapsed without the intervention of biologists (Mader 2001). Through the knowledge of genetic engineering, new breeds of animals are introduced and new plants of high-yielding capacity are been discovered and introduced into the farming system. There has been emphasis on Nigerians going back to Agriculture. The speaker, Nigeria House of Representatives Dimeji Bankole (in Rafiu 2009) announcing that the country's 2009 budget now runs at a deficit of 700 billion naira and warned of disappointments and difficulties ahead, urging a return to Agriculture. Biology helps in the production and use of natural manure to boost crop yield and also reduces the use chemical fertilizers which negatively affect both the environment and human lives as well. Biologically, pests and diseases are controlled, dams and ditches are constructed to take care of droughts and flood respectively which pose problem to agriculture in most cases. To this end, biology education is relevant to agriculture. This will help to increase the number of our export products, reduce our import products, people will no longer migrate to cities because there will be food every way and the problem of over population will be reduced, the issue of unemployment will be a thing of the past.

In family life: Biology education unveils the need and the methods of family planning. A lot of families are in agony as a result of many children in the home, just because they don't know how to avoid having many. Through biology education parents are exposed to how they will produce the number of children they can properly take care of. Hence, the problem of over population will be solved; problem of health, spread of diseases, high cost of materials will be tackled since families will now have limited number of children based on their income. Government will no longer spend much on disease control. The children will be controlled and educated and will no longer contribute to nations problem (e.g. Niger-Delta

militants) as a result of lack of education and idleness. Parents will support their children in education, business and any venture they want. In food production, biology education has a lot to do, thereby overcoming economic crisis in Nigeria. Among other things, biology education will contribute to the nations and (individual economy by boosting food production in the following areas;

- Ø Food and beverages production e.g. fermentation of beverages like cheese, yogurt, food drinks etc.
- Ø Animal production e.g fish farming, rabbitry, snail farming, poultry production, animal fattening etc.
- Ø Cross breeding through artificial insemination.
- Ø Production of improved variety of seeds, to mention but a few. Nigerians engaging in these will lead to self-reliance, self employment, it will generate income to individuals and to the nation thus, the nation will no longer depend fully on petroleum as a source of income, migration to cities will stop, much importation of goods (turkeys, rice, oil etc) will stop. Everybody will have one thing or the other to do to care for his/her self and the family, crimes will reduce, kidnaping (which we know is because of poverty/ unemployment) will stop. All hands will be on the spindle as advocated by (Kumuyi 2010) and the problem of economic crisis will be a thing of the past.

The importance of biology education to nation building cannot be over-emphasized. What do we say about provision of good (fresh) water, waste disposal (to avoid diseases and money wasted by the nation to care and prevent disease) biochemical cycling (that provide energy for homes, industries etc), biological prevention of soil erosion through forestry (making land available for farmers), regulation of climate, ecotourism etc. All these biological activities when properly harnessed will increase economic activities of the nation and hence, the problem of economic crisis will be ruled out in the nation at large.

Recommendations

1. Biology as a subject should be made compulsory at least in secondary school level to expose all the students to the skills and knowledge that will make them productive and beneficial to themselves and nation at large.
2. Science teachers especially biology teachers should be encouraged to attend seminars, workshops, conferences and short-courses to improve their pedagogy, and they should be expose to curriculum development as part of capacity building. Only professional biology teachers should be allowed to teach biology in schools.
3. Biology (and other science) curriculum should be reviewed from time to time and implementation should be done adequately to align it in a position to address emerging issues at appropriate time. Curriculum should be directly related to the needs of the society
4. Science equipment, laboratory facilities and personnel should be provided in the schools to help teachers make biology teaching more of practical than theory. This will enhance productivity.
5. Government should establish more industries and manufacturing companies that will enhance productivity to maintain good health disease control and food production instead of spending large amount of money on export commodities and disease control after the outbreak of such diseases in the country.

Conclusion

Biology education is a means of overcoming economic crisis in Nigeria as it covers all areas of human endeavor. Nigeria is blessed with natural resources which safe us a lot of time money and energy and as well as lead to high productivity when harnessed very well. All hands must be on deck to produce and use our local materials and avoid depending much on foreign materials. In no sooner time, we will overcome economic crisis in the nation.

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