

## ENVIRONMENTAL SCIENCE AS AN INSTRUMENT FOR ACHIEVING THE SEVEN (7) POINT AGENDA IN NIGERIA

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### **Abstract**

This discourse x-rays education as a veritable tool for achieving national development. It analytically explains the multidisciplinary features of environmental science. It further describes among other things, the 7-point Agenda of the present Federal Government as rolling plan aimed at achieving targeted economic goals, for Nigeria development. It finally expatiates the interplay of global warming and resources depletion as the bane of any development and proffered robust environmental science programmes as a panacea to achieving the 7-Point Agenda for Nigeria and Nigerian development.

### **Introduction**

Education in Nigeria and indeed globally, remains a veritable tool for achieving national development (NPE, 2004). The continuity, survival, sustainability and development of any nation, depend to a large extent, on far-reaching provisions in her education policy. Education is the compass that detects and directs the course and propensity of a nation's development. Education fosters the worth and development of the individual, for each individuals sake, and for the general development of the society. It is an instrument for national development.

According to Beychok (2005), environmental science is the study of interaction among physical, chemical and biological components of the environment. Environmental science provides an integrated, quantitative and interdisciplinary approach to the study of environmental systems. Environmental scientists monitor the quality of the environment, interpret the impact of the human actions on terrestrial and aquatic ecosystems, and develop strategies for restoring ecosystem.

Environmental science encompasses issues such as climate change, conservation, biodiversity, water quality, ground water contamination, soil contamination, use of natural resources, waste management, sustainable development, air pollution and noise pollution.

The 7-Point Agenda of the Federal Government of Nigeria (2007), are the present Government agenda set out to transform all aspects of the nation's economy over time. These include: power and energy, food security and agriculture, mass transportation, land reforms, good and qualitative education, job creation and employment, and security and Niger Delta. Without a proper environmental science, there is no possibility of attaining the goals of the 7-Point Agenda of the present Federal Government.

### **Environmental Science**

Environmental Science is the study of interaction among physical, chemical and biological components of the environmental (Beychok, 2005). Environmental science is a broad area of study encompassing both biological and physical concepts including diverse areas such as geology, hydrology, physical geography, climatology, geomorphology, oceanography, agronomy, meteorology, atmospheric chemistry, soil chemistry, water chemistry, systems modeling and biological responses of system to anthropogenic influence. Since most environmental issues deals with human activities, study of economics, law and social sciences are often applied in conjunction with environmental science. In environmental science, these areas of study are integrated and applied to address issues such as water quality, air quality and soil quality.

The magnitude and complexity of environmental problems are creating a growing need for scientists with rigorous, interdisciplinary training in environmental science. Taking the example of the global warming phenomena, physicists create computer models of atmospheric circulation and infrared radiation transmission, chemists examine the inventory of atmospheric chemicals and their

reactions, biologists analyze the plant and animal contribution to carbon dioxide fluxes, and specialists such as meteorologists and oceanographers add additional breath in understanding the atmospheric dynamics. The environmental agency is the leading public body for protecting and improving the environment and enforces the regulation listed on the substantive environmental laws, requiring specific environmental protocols of investigation and growing public awareness of a need for action in addressing environmental problems.

Nigeria's environmental situation is confronted with a good deal of major challenges. The rapid rate of deforestation annually, estimated at 3.5 percent, which translates into more than 40,000 has loss of forestlands. Commercial energy use including consumption of hydropower, natural gas and petroleum products has grown considerably. Oil pollution has remained an intractable problem in the oil producing areas, just the same as soil erosion in parts of the South East and South-South zones, and desert encroachment in the extreme north of the country.

### **The Seven (7) Point Agenda**

The 7-Point Agenda of the Federal Government of Nigeria with reference to the blueprint of the Federal Government of Nigeria (2007) are as follows:

The Rule of Law, constitutionalism, democracy, electoral reforms, constitutional reviews and amendments.

Good governance: Universal Basic Education, provision of social amenities such as portable pipe-borne water, stable electricity supply, good tarred roads and hospitals, National Poverty Alleviation Programmes through creation of employment opportunities and welfare packages for civil servants and other citizens of the country.

Prosperous economy through favourable balance of trade in imports and exports under favourable conditions for industrialization with adequate security and defence of peoples' lives and property.

Effective and efficient health delivery systems to combat AIDS/HIV, tuberculosis, leprosy, measles, malaria and other diseases with the support of the World Health organization (WHO).

Better agricultural programmes that will boost mass food production in Nigeria, with encouragement to micro-finance banks to provide loans to farmers of various cash and food crops with the support of FAO.

Protection of the fundamental human rights of all citizens, including gender balance, equity, empowerment of women, maternal health, child mortality and ensure environmental sustainability, reverse loss of environmental resources and environmental degradation in Nigeria.

### **Environmental Science as a Tool for Achieving the 7-Point Agenda in Nigeria for National Development**

1. **Issues in Climate Change and 7-Point Agenda:** Global warming/climate change is due to human activities such as use of oil, coal and natural gas. These fossil fuels release carbon dioxide and other dusts into the atmosphere when they are burned. These substances known as green house gases (GHG), examples are CO<sub>2</sub>, water vapour N<sub>2</sub>O, CFCs and Methane, deplete the ozone layer in the atmosphere, which shield the earth from very short wavelengths as radiation, which are carcinogenic and deleterious to life.

Green House Gases (GHGs), such as CO<sub>2</sub> and water vapour are transparent to short wavelength radiation and of higher energy (e.g. sunlight), but opaque to longer wavelength radiation and of weaker energy (e.g. infrared emitted by the earth). These gases therefore, let sunlight through to warm the earth but trap infra-red radiation from the earth and warm the planet by 20°C (Roger and Julian, 1994). The depletion of the ozone layer also increases earth's temperature. The process whereby the carbon dioxide in the atmosphere increases the earth's temperature by retaining heat

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returning to space is known as green house effect. Thus, temperatures are reaching all record highs. Sea levels have risen at least three feet and expected to reach 80 feet if average temperature rises 5 degrees (UUA, 2008). Also associated with global warming are disasters such as storms/ hurricanes, tornado/typhoons, cyclone/tempests, floods etc. Thus, if the situation is not properly mitigated, there is the likelihood that half of the world's plant and animal species are at the risk of extinction by 2100, when habitats are destroyed and ecosystems unravelled (UUA, 2008). Furthermore, there is every indication that the Siberian Permafrost Peat bogs are melting thereby releasing methane and increasing global warming.

These changes have great potentials of changing salinity of the ocean and increasing surface temperatures which have led to more intense hurricanes. Human activities have contributed much to climate change than natural disasters. National and international cooperation are critical for addressing this global dilemma.

Through environmental science, the issues of global warming/climate change are being mitigated. Almost all the 7-Point Agenda are influenced by global warming and addressing this through environmental science will give rise to national development in Nigeria.

**2. Issues in Resources Depletion and 7-Point Agenda:** Nigeria is endowed with immense physical and human resources diversified over various ecosystems which are defined on the basis of vegetation zones as well as drainage, soil and land resources systems. In recent decades however, most of these ecological niches have experienced pressures from uncontrolled socio-economic activities, putting land, air, water, forest and species to wide spread deterioration and greater risk of abuse. Apart from environmental degradation arising from the modification of the structure of the ecosystems through frequent bush burning, overgrazing wildlife poaching, mining, industrialization, rural development and settlement schemes, the production of waste and the generally low level of environmental sanitation are the most noticeable disasters that affect the greater number of people and their environment. In recent years the level of public concern and response of the government to resources depletion and biodiversity loss have increased.

Several features of environmental problems have resulted from human impact on the natural system as well as domestic and industrial activities in Nigeria. Agricultural land development, logging and mining activities have been accompanied by problems such as environmental deterioration/ degradation, sheet and gully erosion, sedimentation of water courses, greater susceptibility to floods, apart from localized polluted environment around intense economic activity areas of the country.

Recent assessment of land use and vegetation in the country reveals that, there has been a progressive decline due to over exploitation for logging and firewood, agricultural expansion, grazing and urbanization. According to FAO Report, rapacious exploitation of forest reserves have put deforestation rates at 3.7% between 1986 and 1990, while the remaining forest area would disappear by the year 2020, if the deforestation rate remains unchecked. The parts most affected are the southern states including the forest reservation areas of Edo, Ogun, Delta, Kogi, Abia, Ebonyi and Cross-River States. In respect of land degradation, as a result of increasing pressure of population on land, the bush fallow system of farming has provoked negative impact on the environment. The result is either wind erosion in the northern part of Nigeria, especially Sokoto, Borno, Jigawa and Yobe states or serious gully erosion as in Agulunanka area of Eastern Nigeria.

Effective and workable palliative measures that will address all the issues raised are the only panacea that will guarantee the achievement of the 7-Point Agenda (power and energy, food security and agricultural), mass transportation, land reforms, good and qualitative education, job creation and employment, security and Niger Delta), for Nigeria development.

## **Conclusion**

In concluding this discourse, I want to state unequivocally, that the myriad of challenges facing the actualization of the 7-Point Agenda, for Nigeria development can only be surmounted when environmental science is properly placed to play its rightful role. If we decide that environmental science is important but should be the sleeping revolutionary, then we face the environmental issues that can extinct mankind. If we decide to make environmental science education a purely commercial venture, then we endanger the Nigerian society and eliminate social security and national development and those with the brains but without the means of going through a commercialized education become threats to our survival. Environmental science can only be properly placed when it is adequately funded in all ramifications and the best brains are not only attracted to work there but also employed and motivated accordingly to make it attain the ideal goals for which it is fashioned, the total development of Nigeria and Nigerians.

## **Recommendations**

The threats posed by global warming if not checked could cause ravaging devastation on the economy and make the actualization of the seven point agenda of the present administration and the Millennium Development Goals unattainable. It is therefore imperative that government mobilizes the nation's vast resources to combat global warming and climate change by developing appropriate frameworks both in policies, mitigation and adaptation capacities.

To achieve this, government must realize that climate change is a global issue and therefore requires global partnership. This partnership should be extended to other stakeholders such as international organizations, NGOs and the private sector. Furthermore, government should be inundated with development strategies that are environmentally friendly and acquire technologies for more accurate impacts assessment of climate change which is hitherto inadequate, through the promotion of professionalization of teaching of environmental science. Finally, the findings and recommendations of climate related researches should be carefully studied and integrated into the nation's development strategy.

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