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An Overview

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Comment

Bolanle Wahab

The article by Babatunde Agbola on "Climate Change and Poverty in Nigeria" is a highly educative article on a very topical issue of the twenty-first century, the twin issue of climate change and poverty. The author commenced with a true assertion that climate change is a global phenomenon today and has manifested in diverse ways in different parts of the world. It is seen in the disappearing Arctic ice and permafrost by Canada's Inuit clan; in lethal storms and floods by the shantytown dwellers of Latin America and South Asia; in the disappearing glaciers, increasing forest fires, and fatal heat in parts of Europe while Africans see it in drought and flooding and the Australians perceive it in forest fires and desert encroachment. An incontrovertible fact today the world over is that, climate change is real, probably reversible, but for now unstoppable. People are thus concerned about mitigating measures and adaptation strategies, especially in the developing countries.

The author observed that one serious consequence of climate change is food shortage. One in six countries in the world faces food shortages because of severe drought that could become semi-permanent under climate change.¹ The Food and Agriculture Organization of the United Nations (FAO) has observed that up to 30 million people globally will need food assistance due to drought, natural disasters, and diseases outbreak occasioned by climate change. Impacts of climate change, as noted by Quan and Dyer,² include extensive reduction in the availability of land suitable for agricultural production as a result of temperature increases, sea-level rise, and associated flooding, drought, and restrictions in water supply. African countries are the most vulnerable as they are already in economic difficulties, and have least resources and least capacity to adapt to climate change. There will be reduction in agricultural productivity which will further deepen the poverty situation in African countries, including Nigeria.

Poverty is defined by the author as material deprivation which manifests itself in food insecurity, lack of access to essential services such as housing, transportation, health, education and drinking water, as well as opportunities or resources to generate income compounded further by the emerging climate change scenario and leading to vulnerability of the poor. The concept of climate vulnerability clearly marks an important advance

in the traditional discourse on poverty. Moser³ defines vulnerability as insecurity in the well-being of individuals, households, and communities, including sensitivity to change. In Africa, as in most developing countries, women are among the most vulnerable to climate change and its poverty outcome, for they not only account for a large proportion of the agricultural workforce, but also have few alternative income opportunities.⁴

The article is a rich exploration of the relationship between climate change and incidence of poverty in Nigeria. It contains an extensive literature review on climate change scenario: causes, consequences, and solution, especially in relation to poverty.⁵ It examines the possible impact of climate change on poverty among rural and urban communities in Nigeria.

The forest area of Nigeria has diminished from 60 million hectares in the 1890s to about 9.6 million hectares as of 2003,⁶ and current annual estimate of forest loss is about 600,000 hectares per annum⁷ and climate change is believed to be contributing to this loss in forest resources. It is also estimated that desert land now covers about 35 per cent of the country's landmass and is advancing at an estimated 0.7 km per annum on average.⁸ In spite of her enormous resources (human, natural, agricultural, petroleum, and solid mineral), poverty is on the increase in Nigeria (Okunmadewa⁹ and Odunola¹⁰) and the World Bank¹¹ described the country as a paradox as a result of the persistent increase in poverty. Nigeria retrogressed to become one of the twenty-five poorest countries at the threshold of the twenty-first century. Her precarious poverty situation will be further undermined by climate variability.¹²

Currently, Nigeria contributes 19 per cent of global gas flaring¹³ which is manifesting in different climatic indices in different parts of Nigeria as coastal erosion, flooding in several parts of Lagos state, the dry lands of Sokoto and Ibadan, Atlantic Ocean overflow at Bar Beach, Lagos, salt water intrusion, mangrove degradation, and related socioeconomic problems. The current estimate of sea-level rise is about 0.2 m (with land loss of 3,400 km²) and is projected to increase to 1.0 m (with land loss of 18,400 km²) along the Nigerian coastline within a time frame of fifty to 100 years.¹⁴

The author highlights how climate change will negatively alter Nigeria's different ecological zones. In the coastal region of Nigeria, there will be reduction in water volume in streams and rivers, the drying up of water sources, and the loss of vegetation in headwaters, while higher sea waves will cause beach erosion and coastal flooding. Storm wave scouring and wave run-up will undermine the integrity of coastal engineering infrastructures and many industrial facilities. The mangrove ecosystem will be dramatically transformed and result in the loss of its biodiversity. Fishing activity will be negatively affected and groundwater will become salinized. Beach properties will be destroyed, inward property, buildings, and roads will be threatened, businesses and residential owners will be forced to relocate as is already happening at Bar Beach, Lagos. Land will be lost, and may become completely submerged. Cities like Lagos, Warri, Port-Harcourt, Eket, and Calabar could be annihilated.¹⁵ In the tropical rainforest of Nigeria, increased rainfall will render neutral soils acidic, making them less suitable for the cultivation of traditional crops like cocoa, while in the semi-arid and arid zones of the country, it will result in higher humid conditions, thereby reducing harvest of crops such as millet and sorghum.

Direct effects of climate change on health will result in temperature related illnesses and deaths. Prolonged intense heat waves coupled with humidity may increase mortality and morbidity rates, particularly among the urban poor and the elderly. In the

year 2007, flood activities resulted in the destruction of about thirteen villages in Sokoto State, while in neighbouring Zamfara State, over 100 houses were destroyed. In addition, about twenty deaths were recorded in Kanke area of Plateau State, north central Nigeria while about 300 farms were waterlogged. Current domestic water supply inadequacy will be further escalated. According to the United Nations Economic Commission for Africa (ECA),¹⁶ water demand and supply projections for Nigeria shows that by 2010, total water demand of 12,775.7 million litres per day (MLD) was expected to be higher than supply of 6,031.1 MLD, a deficit of 6,744.6MLD and by 2030, the deficit was expected to be 17,566 MLD.

The author suggested a number of feasible, practicable, cost-efficient and sustainable strategies (some of which are already in practice) to address the poverty and poverty-related effects of climate change in Nigeria. These include: beach nourishment to halt erosion (an activity in Bar Beach, Lagos); shoreline embankments using sheet piling and moles (Marina, Lagos) and sandbags to shore up individual dwellings (Niger Delta region); pole-raised houses (Lagos Lagoon); floating houses (Niger Delta); retreat and abandonment of coastal property (Bakassi); and instituting buffer or setback lines are all effective adaptation to coastal erosion and flooding. Establishment of several kilometers of green belts, with evergreen and perennial trees, in all the thirty-six states in Nigeria as being implemented in some areas in the north is yet another attempt.¹⁷ He identifies possible climate adaptation measures aimed at ensuring food security in Nigeria to include: education and awareness, climate forecasting, water management, restoration of degraded lands, appropriate soil tillage, solid waste composting and utilization, diversification of food production, utilization of improved crop varieties, and irrigation. For effectiveness, the author observes that, mainstreaming adaptation needs to engage a broad range of decision makers, public agencies, civil society organizations, private sector shareholders, and vulnerable groups as well as members of the science community.

NOTES

- ¹ John Vidal and Tim Radford, "One in Six Countries Facing Food Shortage," *The Guardian* (30 June 2005) (Available at <http://www.guardian.weekly.com.uk>; retrieved on 14 September 2008)
- ² J. Quan and N. Dyer, *Climate Change and Land Tenure: The Implications of Climate Change for Land Tenure and Land Policy* (Rome: Food and Agriculture Organization of the United Nations (FAO), 2008).
- ³ C. Moser, "The Asset Vulnerability Framework: Reassessing Urban Poverty Reduction Strategies," *World Development* 26 (1:1998):1-21.
- ⁴ D. Satterthwaite, S. Huq, M. Pelling, H. Reid, and P. Lankao-Romero, "Adapting to Climate Change in Urban Areas: The Possibilities and Constraints in Low- and Middle-Income Nations" (Climate Change and Cities Series, Discussion Paper; no. 1) (London: International Institute for Environment and Development (IIED), 2007).
- ⁵ IPCC, *Climate Change 2007: The Physical Science Basis* (Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Summary for Policy-makers) (2007) (Available at <http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1-Print-SPM.pdf>; retrieved on 6 February 2008); Quan and Dyer, *Climate Change and Land Tenure*; Satterthwaite, Huq, Pelling, Reid, and Lankao-Romero, "Adapting to Climate Change in Urban Areas"; Moser, "The Asset Vulnerability Framework"; Satterthwaite, Huq, Pelling, Reid, and Lankao, "Adapting to Climate Change in Urban Areas"; S. Huq and H. Reed, "Community Based Adaptation: A Briefing" (London: IIED, 2007); A. Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford: Oxford

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- 6 T. Uwejamomere, "Climate Change in Nigeria: A Communication Guide" (Ibadan: Nigerian Environmental Study/Action Team (NEST), 2003).
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- 8 Uwejamomere, "Climate Change in Nigeria."
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- 11 International Bank for Reconstruction and Development (IBRD), "Nigeria: Poverty in the Midst of Plenty. The Challenge of Growth with Inclusion" (World Bank Poverty Assessment Report; no. 14733) (Washington, DC: UNI, Population and Human Resources Division, Western Africa Department, Africa Region. World Bank, 1996).
- 12 See *ibid*; United Nations Development Programme (UNDP), *Nigerian Human Development Report* (Lagos: Acdees Publisher for UNDP, 1996); Federal Office of Statistics (FOS), "Poverty Profile for Nigeria (1980-1996)" (Abuja: FOS, 1999); and O. Adeniyi, "Climate Change and Physical Planning" (Area paper submitted to the Department of Urban and Regional Planning, University of Ibadan, Ibadan, 2010).
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- 14 Uwejamomere, "Climate Change in Nigeria."
- 15 NEST, *Executive Summary of Five Multi-Sector Surveys*.
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- 17 Bolanle Wahab, "Waste — A Resource to Combat Climate Change at the Local Level" (Paper presented at the Staff/Postgraduate Seminar Series at the Department of Urban and Regional Planning, University of Ibadan, organized in collaboration with the Physical Planning Department, Nigerian Institute of Social and Economic Research (NISER), Ibadan, 16 June 2009).