

## LIVELIHOODS AND ENVIRONMENTAL CHALLENGES IN COASTAL COMMUNITIES OF NIGERIA

Akeem Ayofe Akinwale

Department of Sociology, Landmark University, Omu Aran, Kwara State, Nigeria

### ABSTRACT

The study examines the influence of socio-economic activities on the coastal environment and local contributions to environmental protection in Nigeria, using data from archives and narratives within 32 Focus Group Discussions among youth and community leaders in eight coastal communities in Lagos State of Nigeria. The findings showed that Nigeria's environment is threatened through people's struggle for survival, despite several environmental protection agencies. This situation follows several years of neglect and poor socio-economic conditions in Nigeria, as evidenced by a consensus on adverse consequences of socio-economic activities in coastal communities where fishing, farming, sand digging, and trading are popular. Fishermen claimed that sand digging created hindrances to fishing activities, while sand diggers complained about pollution associated with chemicals found on the water. Farmers disclosed that they practiced bush burning and deforestation, which adversely affected the environment. However, awareness of environmental laws was generally low; hence, local measures for environmental protection included temporary withdrawal from aquatic environment and sanction of defaulters. Coastal livelihoods have become deplorable with contamination of natural resources, thereby requiring combined efforts for the management of environmental challenges in coastal communities.

**Keywords:** Biodiversity; Coast; Degradation; Environment; Livelihood

### INTRODUCTION

The battle between people and the environment dates from antiquity; it has taken different dimensions with increasing environmental challenges arising from human struggle for survival. Concerns about environmental challenges, such as acid rain, ozone depletion, and climate change, were prominent since the 1950s. Decades of environmental movements have resulted in a higher awareness of environmental issues. The United Nations (UN) assembled 113 government representatives from different countries at Stockholm in 1972 for environmental protection (Liverman, 1999). Consequently, the United Nations Environmental Protection Agency (UNEP) was established to safeguard the environment (Dosunmu, 2008; Caldwell, 1996). In the 1980s, concerns about several environmental issues, such as ozone depletion, climate change, and biodiversity loss, led to renewed interests in the understanding of the relationship between human activities and the transformation of the environment.

It is believed that utilization of chemicals has damaged the stratospheric ozone layers, while burning of fuels produced green house gases that caused global warming and a conversion of ecosystems reduced biodiversity. Expanding the concerns about

environmental issues beyond state actors, an international conference on environmental protection was convened in 1992 in Rio de Janeiro, Brazil, to examine some fundamental issues, including climate change, biodiversity protection, and sustainable development. Both state and non-state actors participated actively in the Rio conference. With increasing emphasis on development, recognition of the importance of environmental management has become unprecedented (Murray, 2002). This recognition was reinforced by the belief that people derive their capacities from nature and society (Hauggaard, 2003).

It has been argued that people would produce nothing without land, water, labor, capital, or other natural resources (Shipton, 1994). There are similar studies on human activities and environmental issues (Agbogidi & Ofuoku, 2006; Raven, 2003; McCarthy & McKenna, 2000; World Bank, 2000; Cline-Cole, 1996; Oladipo, 1995; Bebbington, 1993; Kates & Haarmann, 1992). However, effects of land use practices and community interaction with the coastal environment have been understudied in developing countries (Liverman, 1999). This study is an attempt to fill the lacuna. In most developing countries, including Nigeria, land surface is largely used for agriculture, grazing, and other human activities. Unfortunately, land has become less productive, despite increasing demands for high-quality food (Raven, 2003).

The aforementioned scenario has been adduced to degradation arising from unregulated human socio-economic activities (Dosunmu, 2008). Environmental disasters can be linked with human quests for survival and the situation in coastal environment could be worse. Globally, people have consumed more than half of the total renewable supplies of fresh water, yet demands for water remain high. Water tables have rapidly dropped in densely populated regions, where agriculture accounts for about 90% of the total human water consumption. As such, about 3.5 billion people will experience acute water shortages by 2025 (Raven, 2003). A significant number of the projected population can be located in Nigeria, a highly heterogeneous society and the most populous African country.

Nigeria has three main environmental regions: savanna, tropical forests, and coastal wetlands. These environmental regions greatly affect the cultures of the people who live there. The dry, open grasslands of the savanna make cereal farming and herding a way of life for the Hausa-Fulani (Fabusoro, Matsumoto & Taeb, 2007). The wet tropical forests in the south provide opportunities of planting different crops and income generation for the Yoruba and the Igbo, as well as other ethnic groups. The ethnic groups, such as the Ijaw and the Kalabari, who live around the coast, are forced to keep their communities small due to scarcity of dry land. Living among creeks, lagoons, and salt marshes makes fishing and the salt trade part of everyday life in the area.

The mangrove forest that extends along the coast of southern Nigeria accommodates freshwater plants, such as raffia palm, which is a raw material for the production of a local gin. The Niger and Benue rivers that unite at the center of Nigeria split the country into three separate sections, which represents boundaries of the three major ethnic groups, with the Hausa in the north, the Yoruba in the southwest, and the Igbo in the southeast (Fabusoro, Matsumoto, & Taeb, 2007). These ethnic groups are familiar with different vegetation zones, such as the tropical rainforest, the savannah region, and the mangrove forest. It is noteworthy that people's understanding of the environment could affect their livelihoods, and vice versa.

Accumulated knowledge on the environmental issue shows that access to land is important for livelihood security. This provides justification for the establishment of the Nigerian environmental legislation, including the Environmental Sanitation Law (ESL), the Environmental Protection Agency Act (EPAA), the Petroleum Act (PA), and the Environmental Impact Assessment Act (EIAA). The latest environmental law is contained in Section 20 of the 1999 Nigerian Constitution, which empowers the state to protect and improve the environment and safeguard the water, the air, the land, the forest, and wildlife of Nigeria (Makinde & Adegoke, 2008). However, public awareness of these environmental laws remains relatively low, due to the lack of effective law enforcement mechanisms. Unfortunately, poor environmental awareness on how best to manage the Nigerian economically viable, but fragile environment has resulted in incessant pollution and degradation ((Dosunmu, 2008). Thus, this study examines the livelihoods and environmental challenges in the coastal communities of Nigeria.

### **AN OVERVIEW OF DEBATES ON LIVELIHOOD AND CLIMATE CHANGE**

Livelihood is a process by which people make a living through specific capabilities, assets, and activities (Ellis, 2000; Carney, 1998; Chambers & Conway, 1992). An earlier anthropological study showed that livelihood extends beyond basic life necessities to include information sharing, social relationships management, and identity maintenance (Wallman, 1984). Livelihood is a holistic phenomenon, connecting different aspects of social life with resources and their utilization. Essentially, the discourse on livelihood cannot be disconnected from an understanding of environmental and socio-cultural contexts of society. Livelihood is influenced by environmental factors, including rainfall and other natural resources, as well as socio-cultural factors, such as economy, politics, and kinship networks. Conversely, these factors influence the extent to which people manage or mismanage the environment.

Uncontrolled extraction of resources has led to the mismanagement of resources and the depletion of valuable biodiversity, which encompasses all species of plants, animals, micro organisms, and their ecosystems and ecological processes (Agbogidi & Ofuoku, 2006). Over-exploitation of fisheries resources, followed by agriculture, transport sources, and poorly planned and managed coastal developments, have led to rapid degradation of vulnerable coastal and offshore habitats (Churcher, 2006). Also, depletion of biodiversity has aided climate change, which threatens human survival (Ajetomobi & Abiodun, 2010). Climate change, through extreme temperature, frequent flooding, drought, and increased salinity of water used for irrigation, has become a recurrent environmental problem in Nigeria. Although climate change is a threat to general socioeconomic development, agricultural activities are generally more vulnerable to climate change than other sectors (Ajetomobi & Abiodun, 2010). The agricultural sector also constitutes an arena of threats to climate change in Nigeria.

The interaction of livelihoods and climate change usually depends on interplay of climatic parameters and societal backgrounds in question. The location and characteristics of the environment give rise to various types of climates ranging from tropical rainforest along the coasts to savannah climate in northern Nigeria (Ogundiran, 2005). The relatively large inter-annual variability of rainfall in northern Nigeria usually results in hazards from floods and droughts, with their devastating effects on livelihoods. From a water balance perspective, Nigeria has experienced large spatial and temporal variations in rainfall, with less variation in evaporation and evapo-transpiration. It has been shown that any change in the

climate would affect the agricultural sector and other socio-economic activities. Climate change could have both positive and negative implications, which could be measured in terms of soil fertility or acidity, crop growth, availability of soil water, soil erosion, incidents of pests and diseases, and sea level rise.

The melting snow of Kilimanjaro provides dramatic evidence that climate change has been affecting the environment with dire consequences on livelihoods, especially in agrarian societies (McCarthy & McKenna, 2000). The Nigerian meteorological data have shown that rainfall pattern has changed in the past decades due to an abrupt change in the climate in Nigeria, where over 20 million people live along the coastal zone (Oladipo, 1995). It has been predicted that climate change will create uncertainty in the rainfall pattern and pose a serious threat to food security. It is, therefore, necessary to reexamine the people-environment interaction and its implications for poverty alleviation in Nigeria. Situations in which some people live in poverty and some live in prosperity can be linked to the political economy of environmental differences. People in resource-endowed environments are expected to be more prosperous than their counterparts in the disadvantaged areas.

An emerging experience in Nigeria is such that people in the disadvantaged areas enjoy more livelihoods than their counterparts in the resource-endowed environments. This assertion reflects on structural differences between rural and urban areas in Nigeria. Rural areas in Nigeria are largely endowed with abundant natural resources, although the majority of rural dwellers have been excluded in the distribution of social amenities, which are restricted to cities. However, environmental hazards are more pronounced in cities compared to the environmental situation in rural areas. Yet, urban dwellers could access more livelihood opportunities, compared to their counterparts in rural areas. This situation is further explained in light of the following livelihood framework.

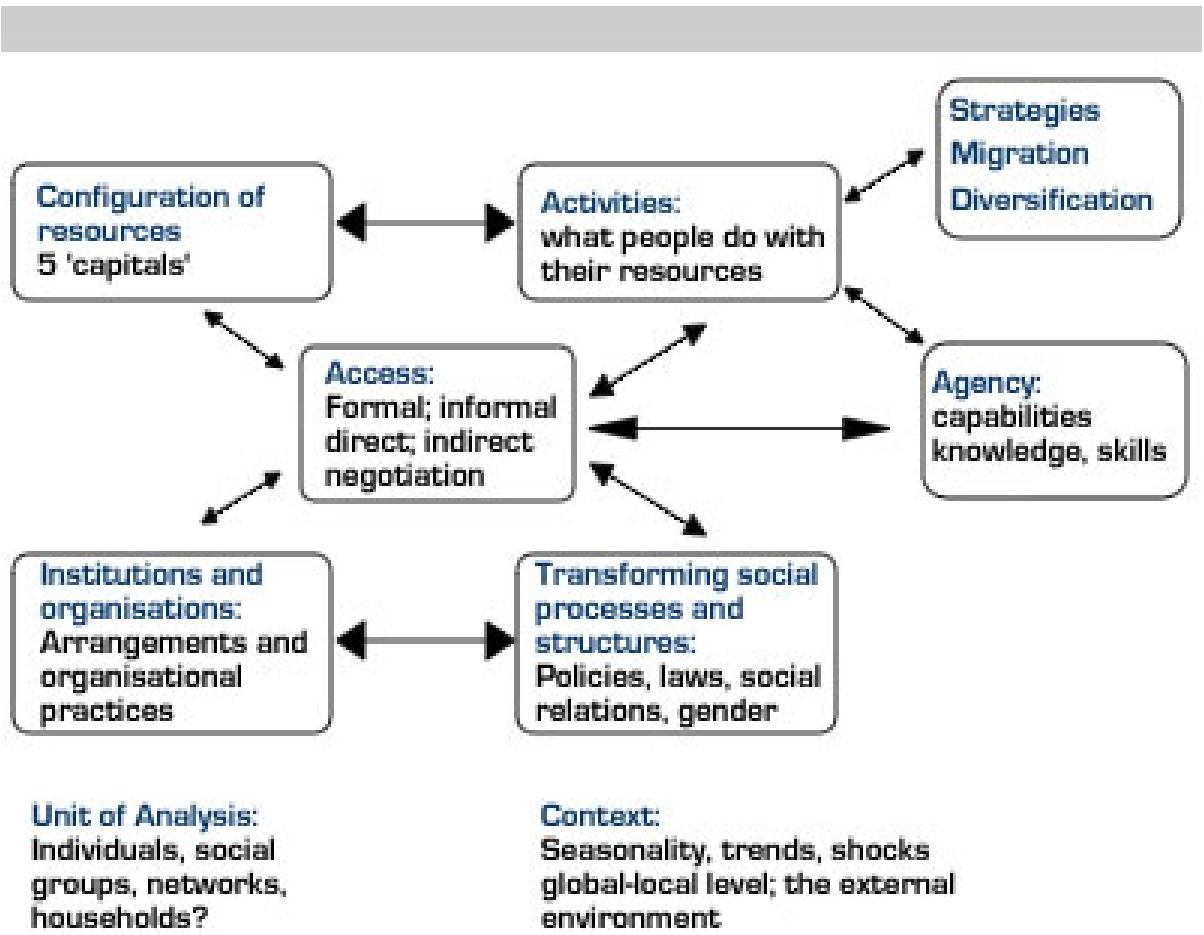


Figure 1: Livelihood Framework (Ellis, 2000)

The livelihood framework in Figure 1 focuses on resource base and people’s capacities to act within specific social, economic, political, ecological, and cultural contexts. It starts with an analysis of local resources and skills available for constructing livelihood activities. The canons of the framework include people’s strengths and potentials in light of their agencies and interaction within social networks. This framework shows that livelihoods are based on knowledge of specific contexts where they occur. Thus, livelihoods can be understood through processes operating at different levels. An analysis of livelihoods stems from mapping of different resources at people’s disposal.

Livelihood resources may include tangible assets, such as land and properties, as well as non-tangible assets, such as law and policies. It is important to note that these resources are socially constructed. This assumption and the beliefs that local and global capacities and voices should be connected with research and development planning gained popularity in the 1980s, especially through the adoption of participatory approaches in rural development (Long, 2002). This perspective is impregnated by the gradual shift in social change paradigm from the primacy of centralized development planning to increasing emphasis on collective activities. It is in this context that the goal of sustainable development can be actualized.

## **METHODOLOGY**

The study was guided by two research questions: How do socio-economic activities influence the coastal environment? What is the extent of community participation in environmental protection? These questions were addressed through both primary and secondary data. The primary data were generated from 32 focus group discussions (FGD) among youth and adults in eight coastal communities in Lagos State. A purposive sampling technique was adopted in grouping the nationally approved 20 Local Government Areas (LGAs) of Lagos State into coastal and non-coastal areas. Subsequently, four LGAs and eight coastal communities were selected from the coastal areas. In each selected community, households were visited and eligible participants were purposively selected based on gender, age, status in the communities, and availability. The total sample ranged from 160 to 256 participants, including male and female youths aged 15-34 years and adults aged 35 years upward. An FGD guide was designed to explore participants' opinions and perceptions about livelihoods and environmental challenges in their communities. Four FGD were conducted in each community, where youth, adults and elders participated. Each FGD was comprised of 5-8 participants. Each FGD was comprised of the same sex persons to protect participants from unnecessary distractions. The study was driven by strict adherence to ethical principles in social science research. Findings of the study are presented in the next section.

## **SOCIO-ECONOMIC ACTIVITIES IN THE COASTAL ENVIRONMENT**

Multiple socio-economic activities were discovered in the coastal communities. The activities were regrouped into different categories, based on the participants' perceived level of involvement. Fishing, fish processing, farming, water transportation service, sand digging and trading were predominant occupations, followed by other activities, including hunting, domestic animal husbandry, craft, and ethno-medicine. Two-thirds of the participants combined different occupations to enhance living standards. There was a general agreement amongst the participants concerning exploitation of land, water, and forest resources in the coastal environment.

While men largely reported their interest in physical activities in the coastal environment, the majority of the women mentioned their skills in trading, craft, and home based economic activities. Participants expressed different views concerning how they manipulated the coastal environment in attempts to gratify life supporting needs, such as food, clothing, shelter, and income. About their dexterity in managing the aquatic environment, male youth who specialized in fishing and water transportation service were more vocal, followed by sand diggers, who claimed to possess extraordinary skills needed for staying inside the lagoon for several minutes before digging out sand. This finding resonates with the scholarly assumption that livelihood extends beyond household resources and activities geared towards survival to include security against unexpected shocks and crises (Olujide, 2000).

## **ENVIRONMENTAL CHALLENGES IN THE COASTAL COMMUNITIES**

The diverse environmental challenges that were discovered in the coastal communities under study range from flooding and coastal erosion to soil infertility, deforestation, and pollution. Flooding and erosion threaten lives and properties by destroying top soil and making roads impassable. The severity of both water and air pollution was described. A significant

number of participants complained of exposure to heat and smoke during fish processing. This was mostly done by women. Significant proportions of men and women displayed an understanding of local sources of environmental challenges in the coastal environment. Men reported their experience in traditional practices, such as deforestation and bush burning. They also confirmed their dexterity in some emerging practices, such as the use of chemicals and flying boats for fishing. Similarly, the women's narratives showed the prevalence of other activities, such as cutting and burning of wood for fish processing and domestic purposes.

In line with the 1994 World Resources Institute report, firewood and brush provided about 52 percent of the domestic energy supply in sub-Saharan Africa. These activities are, however, detrimental to the environment. They can aggravate the depleted ozone layers. Fishermen claimed that those engaging in sand digging have created hindrances to fishing activities, while those engaged in sand digging accused fishermen of polluting the water with chemicals and all sorts of substances in attempt to force fish out of their hidden places. Many farmers remained neutral in the discourse on implications of economic activities on coastal environments, although a few of them confessed that they practiced deforestation and bush burning, which could adversely affect the environment. Activities, such as sand digging and excessive fishing, affect the coastal environment negatively as they have contributed to local and global environmental degradation. The following remark is a consensus reached in one of the FGDs:

It is difficult for the people who do sand digging and fishing to work together. We that do fishing, if we see that they have started digging sand somewhere, we always go to another location to search for fish because sand digging would make water rough and many fish would have run away and not come back until the water becomes clear.

Participants recognized the power of climate change in the discourse on socio-economic crises that have threatened their livelihoods. They, however, attributed delay of the rain to unknown forces and divine providence. This throws up the question of the traditional belief system in the understanding of environmental challenges. This understanding extends beyond earlier reports that pollution and deforestation has increased temperature and delayed the rain (Appendini & Liverman, 1994). The question of African mythology and its connection with resistance to change in behavior cannot be taken for granted in this regard.

### **COMMUNITY PARTICIPATION IN ENVIRONMENTAL PROTECTION**

Participants were conscious of local causes of environmental problems, but expressed concerns over their inability to afford facilities that would enhance survival without exhausting resources in the environment. Generally, fishing, farming, and sand digging were the predominant activities in the coastal communities with men's overwhelming concentration. Women largely engaged in trading and fish processing, which requires firewood. Most participants lamented over hindrances to survival. They specifically complained about the lack of electricity and modern equipments that could have enhanced community efforts in ensuring environmental protection. However, peoples' awareness of the government policy on environmental protection was generally low. Few discussants perceived their economic activities as dangerous to the aquatic environment.

The commonly mentioned problems were inadequate fishing equipments, hindrances to successful fishing, idleness, poverty, and inadequate food. It was disclosed that local measures for environmental protection included temporary withdrawal from fishing and sand digging during certain periods and community actions against anybody caught using chemicals to catch fish.

## CONCLUSION

The role of local communities in framing the risks of and solutions to coastal environmental challenges is significant in light of the implications of socio-economic activities in the coastal environment. The participants' narratives show that their livelihoods have become deplorable, despite their attempts to subdue the environment. This indicates that environmental influence remains strong in the coastal environment. The downturns in livelihoods arise from contamination of natural resources and noncompliance with environmental laws. This situation will aggravate the global socio-environmental malaise in the context of poverty and ignorance. It has been discovered that the poor degrade the environment in various ways, while the environment takes a particularly devastating toll on the poor through disasters (Kates & Haarmann, 1992). Scholars have shown that overexploitation of natural resources and depletion of the biodiversity is a key source of poverty (Agbogidi & Ofuoku, 2006). In this context, landscape structuration perspective is useful for comprehending community-specific trajectories of positive and negative interaction with the coastal environment (Leach & Fairhead, 2000). This perspective provides insights into how livelihoods intersect with social and ecological dynamics.

Therefore, concerted community efforts are needed to provide leadership and modalities for the management of environmental challenges in coastal communities. Fundamentally, official attention should be geared towards improving the deplorable livelihoods in coastal communities. Provision of modern equipments that can enhance coastal socio-economic activities will reduce the volumes of environmental challenges in Nigeria. In this regard, rural electrification projects and innovative measures for environmental protections should be provided. Essentially, good governance is central to improvement in the quality of livelihoods and the environment. Therefore, local governments' responsibilities should include provision of adequate social welfare services for coastal communities.

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**ABOUT THE AUTHOR**

Dr Akeem Ayofe Akinwale is Senior Lecturer in the Department of Sociology, Landmark University, Omu Aran, Kwara State, Nigeria.