

# **GEOGRAPHIC PERSPECTIVE: THE MISSING LINK IN NIGERIA'S QUEST FOR RURAL DEVELOPMENT.**

**By**  
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## **Summary**

A geographic perspective involves the use of geography as a framework for understanding and managing spatial processes and relations. The perspective offers unique ways to understand anything that is distributed across space, including the ever-changing relationship between humans and the environment, and thus make predictions and even proposes solutions to current problems. Geography has a long tradition of attempting to understand how different processes and phenomena interact in regions and localities, including an understanding of how these interactions give places their distinctive character. This understanding is important for rural development.

In Nigeria, a number of rural development plans and strategies have over the years been implemented, and through the implementation of these programmes, some landmark achievements have been made. For instance, remarkable achievements have been made in the areas of increased rural productivity, environmental improvement and provision and enhancement of rural infrastructure. In spite of the efforts and progress so far made, a lot still remains to be done because the human conditions of very many rural communities in the country remain deplorable. The critical missing link remains the lack of coherent policy regarding the location and distribution of these services which entails the knowledge and applications of spatial processes. Thus, the approach of targeting policies to rural areas on the basis of informed knowledge of geography of rural areas is still lacking. This makes the adoption of geographic perspective in

rural development not only imperative, but also overdue in the country.

The lecture is organised into the following parts:

**Introduction:** This section introduces the subject matter and stresses the need for geographic perspective in rural development planning. It is argued here that lack of geographic perspective or geographic foresight has greatly contributed to the problems of ineffective implementation and management of rural development programmes in Nigeria. It advocates for the incorporation of geographic perspective into the development process of the country.

**Conceptual Issues:** The three basic concepts namely, geographic perspective, rurality and rural development that form the anchor for the lecture are described here in detail.

**The importance of Geography in the development process:** The channels through which geography influences development are discussed. It is observed that geography through its various specializations; apply the knowledge, skills and perspectives in resolving real-world problems including social, economic and environmental problems.

**Rural development efforts in Nigeria:** This section contains a review and critique of rural development efforts in Nigeria. It shows that despite the enormous efforts made by the successive governments in Nigeria, rural areas in the country suffer several incapacities with various levels of severity such as: inaccessibility, seclusion, underdevelopment, poverty, drabness, boredom, ignorance, depopulation, hunger, and all types of sicknesses. A consequence of this is migration from rural to urban areas which leads to a reduction in the number of rural population.

**The missing link in Nigeria's quest for rural development:** Here the various lacunae in rural development in the country are discussed. It shows that the approach of targeting policies to rural areas on the basis of informed knowledge of rurality is still lacking and this to a large extent has been responsible for the poor and fragmented rural development in Nigeria. This calls for the adoption of geographic perspective in rural development process.

### **The need to adopt a New Rural Development Paradigm**

This section highlights the need for a new rural development paradigm for developing countries.

This results from the global shift to a territorial policy, or arguably, further towards a "local" policy for rural development.

**My research contributions:** This section contains my research contributions towards providing geographic perspective to rural development process in the country and to academic development, especially in the area of rural geography can be grouped into four, namely determination of patterns and factors of rural development, designing a framework for rural classification, climate change vulnerability assessment and assessment of magnitude of environmental impacts. These will be discussed with specific examples.

## **INTRODUCTION**

Every individual makes decisions based on geography every day. While some of these decisions are simple and have short-term consequences such as "which market do I go and buy foodstuff today?" Other decisions such as "where will I live after my retirement?" have a greater and more lasting impact on our lives. Similarly, companies, government agencies, and other organisation, make decisions that have far-reaching effects, and geography affects these decisions as well. Therefore, incorporating geography into the decision-making process provides insights that will affect which approach is chosen and the outcome that is

obtained (*ESRI, 2008*). In essence, ignoring geography in decision making can be likened to one making a movement while blind folded.

A pertinent question here is what do geographers do that are important in decision making and development? Here, it will interest non geographers that geographers ask the following questions:

- Where is it?
- What is it like?
- Why is it there?
- How did it happen?
- What impacts does it have?
- How should it be managed for the mutual benefit of humanity and the natural environment?

Pursuing the answers to these questions involves geographic perspective which necessitates investigating the location, situation, interaction, spatial distribution and differentiation of phenomena on earth (*International Charter on Geographical Education, 1992*). Therefore, a geographic perspective involves the use of geography as a framework for understanding and managing human – environment relationship. The perspective is important because it offers unique ways to understand anything that is distributed across space, including the ever-changing relationship between humans and the environment, and thus make predictions and even propose solutions to current problems (*National Research Council, 1997, National Geographic 2006, Geography Education National Project, 2012*). According to Onokala (2015), it is the space or place, whether in the form of region, country, state, town, city, village or any other form of place that the geographer wants to understand and no other science does this. Similarly, International Geographic Union (IGU) (2015) noted that geography is the only discipline that deals with spatial variability i.e. that phenomena, events and processes vary between

places and, therefore, is an essential part of the education of all citizens in all societies.

Furthermore, geography is a science at the convergence of many disciplines and as a result, almost every research discipline can be approached from a geographic perspective. A few examples are geo-politics, economic geography, and spatial epidemiology (**Bahgat and Medina, 2013**). Put in another way, geographic perspective is a lens one may use to analyse virtually any topic that has a spatial distribution, that is, anything that can be mapped. Accordingly, geography offers a unique way to understand anything that is distributed across space including the ever-changing relationships between human and the environment (National Geographic, 2006).

One other huge benefit of applying geographic perspective in the development process is that it improves the decision-making process by addressing problems and evaluating proposed solutions implemented in a holistic, comprehensive, systematic, analytic, and visual manner. This is because geographic perspective is interdisciplinary in nature and allows the examination of complex issues, including those arising from the interaction of people and their environment, using all available information in order to avoid making short-sighted decisions (National Geographic, 2006). This implies making use of location specific and evidence based decision policy.

With specific focus to rural development, Hodge and Midmore (2008), emphasised that the recent increase in emphasis on evidence based policy must be applauded and which, in practice, means a focus on rural areas where geographic perspectives contribute a great deal. Accordingly, Fredericks (2012) observes that through different rural development interventions, the notions of geography, space, place and territory – the spatial dimensions – in rural development gradually emerged. Thus, rural development,

viewed in terms of sectoral policy in the past, has shifted to a territorial policy, or arguably, further towards a “local” policy. This means a shift towards a more general analysis of conditions within particular types of area, or a territorial approach (European Observation Network for Territorial Development and Cohesion (ESPON) programme, 2014).

It has, however, been pointed out that there are still some fundamental barriers to this focus and as a result, the evidence based approach is lacking in rural development efforts of most countries of the world. In developing countries, for example, the attempt began with the initial push to rectify the colonial policy of benign neglect of the rural areas. While some of these attempts were anchored on single or stand alone projects, others were integrated and based on multiple interventions. Unfortunately, they all failed to adequately represent the spatial processes and this failure, according to Bestelmeyer, Goolsby and Archer (2011), hinders appropriate rural development management responses in the development process.

Against this background, the main argument of this lecture is that lack of geographic perspective or geographic foresight has greatly contributed to the problems of ineffective implementation and management of rural development programmes in Nigeria. Therefore, incorporating geographic perspective into the development process is imperative if effective and sustainable rural development is to be achieved in the country.

## **CONCEPTUAL ISSUES**

**Geographic perspective:** Geographic knowledge as already observed, is concerned with the significance of place and space on processes and phenomena on the earth surface. This explains why geographers and others using geographic knowledge and perspective, are engaged in valuable research and teaching on matters ranging from environmental change to social issues. The

value of these activities derives from geography's focus on the evolving character and organization of the earth's surface as well as on the ways in which the interactions of physical and human phenomena in space create distinctive places and regions. It also analyses the influences those places and regions have on a wide range of natural and human events and processes (National Research Council 1997).

Some of the central concepts of geographical studies as contained in the International Charter on Geographical Education (1992) are as follows:

**Location and Distribution:** People and places have different absolute and relative locations on earth. These locations are linked by flows of goods, people, information and ideas and help to explain distribution patterns on earth. Knowledge of the location of people and places is a precondition for understanding local, regional, national and global interdependence.

**Place:** Places have different natural and human characteristics. Natural characteristics include landforms, soils, and climate, water bodies, and vegetation, animal and human life. Humans develop cultures, settlements, socio-economic systems and lifestyles according to their beliefs and philosophies. Knowledge of the physical characteristics of places and people's environmental perception and behavior are the bases for understanding the interrelations between people and places.

**People-Environment Relationships:** People use environments in a variety of ways. Thus, they create varied cultural landscapes through different patterns of activities. On the one hand, they are influenced by their physical settings, but on the other, they transform their surroundings into different culturally created environments, including landscapes of harmony and landscapes of conflict. Understanding these complex interactions within space

provides an important basis for responsible environmental planning, management and protection.

**Spatial Interaction:** Resources are unevenly distributed across the earth. No country is self-sufficient. Places are linked by transport and communication systems in order to exchange resources and information. Insight into spatial interactions leads to understanding of the current cooperation of people through the exchange of goods and information and by migration. This insight also leads to the detection of current problems and ideas for improving regional, national and international interactions and cooperation.

**Region:** A region is an area characterised by selected criteria. Political criteria define, for example, states and cities; physical criteria define climatic and vegetation zones; socio-economic criteria define "developed" and "less developed" countries. Regions are dynamic in both space and time. Regions are manageable units for studying and developing environments. The understanding of the structure and processes of different regions within the global system is the basis for the regional and national identity of people and their international perspectives.

The focal point of geography is that "location matters" for understanding a wide variety of processes and phenomena. Indeed, geography's focus on location provides a cross-cutting way of looking at processes and phenomena that other disciplines tend to treat in isolation. However, like other academic disciplines, geography has a well-developed set of perspectives, and acquiring, understanding, and using a wide variety of the perspective is essential to becoming a geographically informed person (Madu, 2015).

A geographic perspective is a way of looking at and understanding the world through the lens of geography, in order to solve problems by asking questions such as: where things are located on



the earth; how places differ from one another; how people interact with the environment and why they are located where they are (National Geographic, 2006). Put differently, geographic perspective motivates such questions like: Why is a particular phenomenon found in some places but not others? What does the spatial distribution of vegetation or homeless people or language traits tell us about how physical and human processes work? How do phenomena found in the same place influence one another, and how do phenomena found at different places influence one another? How do processes that operate at one geographic scale affect processes at other scales? What is the importance of location for efforts to effect (or avoid) political, social, economic, or environmental change? (National Research Council, 1997). In other words, it means that one can study anything that has some spatial component to it from this perspective (Foundations of Geographic Information and Spatial Analysis, 2016).

According to International Charter on Geographical Education (1992), through the study of geography, people are encouraged to develop knowledge and understanding of:

- Locations and places in order to set national and international events within a geographical framework and to understand basic spatial relationships
- Major natural systems of the earth (landforms, soils, water bodies, climate, vegetation) in order to understand the interaction within and between ecosystems
- Major socio-economic systems of the earth (agriculture, settlement, transport, industry, trade, energy, population and others) in order to achieve a sense of place. This involves understanding the impact of natural conditions on human activities, on the one hand, and the different ways of creating environments according to differing cultural values, religious beliefs, technical, economic and political systems, on the other

- Diversity of peoples and societies on earth in order to appreciate the cultural richness of humanity
- Structure and processes of the home region and country as daily action space
- Challenges of, and opportunities for, global interdependence.

A Geographic perspective consists of two main aspects, namely the spatial perspective and an ecological perspective and both of enables geographers to ask questions about how humans interact with their physical surroundings (National Geographic 2006). Geographers apply both aspects in order to comprehend the earth as the home of people (**Geography Education National Project, 2012**).

Where something occurs is the spatial perspective. This means it deals with the essential issue of ‘**whereness**’ and is embodied in specific questions such as “Where is it? Why is it there?” It describes and compares where economic, environmental, and social, cultural and other human factors are located. These patterns are determined by using quantitative and qualitative research to compare areas with one another in relation to a particular variable. The distribution of the population, availability of natural resources and levels of adult literacy are examples of variables that could be used in spatial analysis. The understanding of spatial patterns and processes according to **Geography Education National Project (2012)**, is essential to appreciating how people live on earth. Therefore, people who acquire a habit of inquiring about ‘whereness’ possess a spatial perspective.

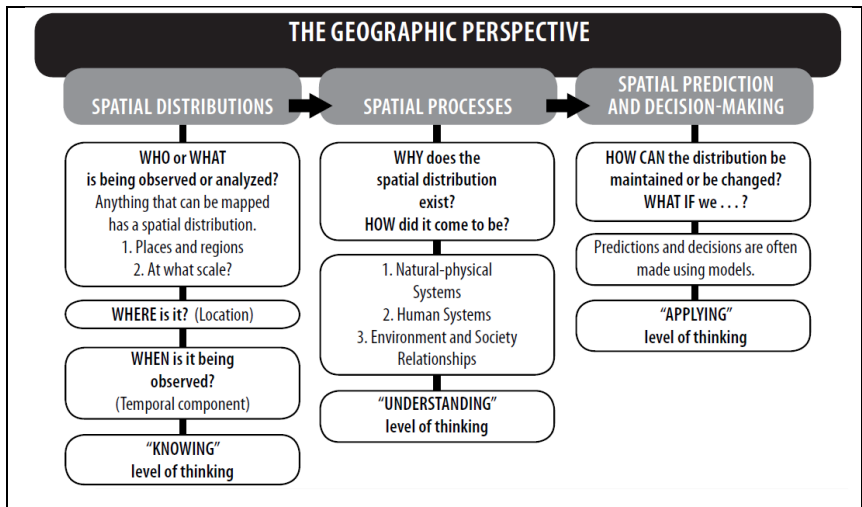
The second important aspect of geographic perspective is ecological perspective which deals with how life forms interact with the physical environment. Ecology is the study of the relationship that exists between organisms and the physical environments which surround them. In the study of geography, the ecological dimension describes the relationship that exists between

people and the natural elements of the environment and the impacts that they have upon one another. This perspective emphasizes the fact that the earth is composed of living and non living elements interacting in complex webs of ecological relationships that occur at multiple levels.

Again, an understanding of the earth as a complex set of interactive living and non living elements is fundamental to knowing that human societies depend on diverse small and large ecosystems for food, water, and all other resources. People who regularly inquire about connections and relationships among life forms, ecosystems, and human societies possess an ecological perspective (**Geography Education National Project, 2012**).

Understanding and using both the spatial and ecological perspectives help geographers understand how to interpret nature and societies on earth. Viewed together, the geographic perspective encompasses an understanding of spatial patterns and processes on earth and its web of living and non-living elements interacting in complex webs of relationships within nature and between nature and societies (National Geographic 2006, **Geography Education National Project, 2012**).

A fully developed geographic perspective, therefore, involves an integration of both spatial and ecological points of view as well as a consideration of other related perspectives, including historical, economic and cultural perspectives that may be useful in understanding and interpreting the world (**Geography Education National Project ,2012**). **Figure 1 illustrates the geographic perspective.**



**Fig: 1.The geographic perspective**  
**Source: National Geographic (2006)**

**The Rurality concept:** Most people have a fairly clear idea about what is meant by ‘rural’. Probably, the first thing that springs to mind is the contrast with urban areas and the image of open spaces, either in a relatively natural state or cultivated or grazed by livestock. However, the definition of rural is not as clear-cut as one might think, as there is no precise distinction between rural and urban. The consequence of the unspecific view of rurality is that there is no unified definition of rural areas and that the data on rural areas and their socio-economic characteristics are not comparable or compatible (Duenckmann, 2010). In fact, two major tasks that always confront a discussion on any aspect of rural studies is the definition of the term ‘rural’ and a distinction between rural and urban areas. The tasks arise from the fact that there is no universally acceptable definition of rural and that the distinction between urban and rural areas varies across countries (Madu, 2002).

In general term however, ‘rural’, is used to refer to areas of small population size or areas of agricultural production. In these senses,

'rural' as argued by Gilbert (1982), is simply a fuzzy descriptive designation or a convenient shorthand label. According to IFAD (2010), "Rural" refers generally to areas of open country and small settlements, but the definition of "rural areas" in both policy-oriented and scholarly literature are terms often taken for granted or left undefined. Therefore, beyond the simple description, the distinction between rural and urban is highly problematic and illusive.

Three main reasons account for the difficulties in defining and differentiating between rural and urban settlements. The first is the existence of settlement continuum. Human settlements exist along a continuum from "rural" to "urban," with "large villages," "small towns," and "small urban centers" not clearly fitting into one or the other (Dasgupta et al, 2014). This implies that there is no point where urbanity disappears and rurality begins. As a result, it is difficult to determine whether a given borderline characteristics should be classified as rural or urban. The second is the changing character of settlements which includes urban expansion and development of sprawls and rural transformation. The third is the use of different criteria by different countries such as population (with different cut-off points also varying between countries) or percentage population employed in primary, secondary or tertiary activities (Bernstein, 1992, Madu, 2002). Each country has its own official definition based on statistical criteria or administrative decisions. Even when using administrative definitions, they are applied to different territorial units or frequently changed without clear criteria ((Bogdanov , Nikolić , Dimitrievski., Kotevska 2015).

It must also be noted here that the concept of rurality has been a subject of long-standing debate and controversy. Coupled with the difficulties in defining rural, building an objective or unequivocal definition of rurality appears an impossible task in reality (Study Programme on European Spatial Planning, 1999). This is because

there exists not a single methodology and a single definition of what constitutes rural. The problem basically is that the patterns of spatial occupation are culturally and historically determined and vary among regions of the world (Anriquez and Stamoulis, 2007). Consequently, the treatises of alternative views on the rural concept are numerous and varied. One outstanding debate is whether “rural” is a geographical concept, a location with boundaries on a map or whether it is a social representation, a community of interest, a culture and a way of life (Plessis et al, 2001). This explains why the questions as to what is meant by rural, the identification of its diagnostic features and attempts at understanding the nature and scope of rurality are continuing themes in the literature.

In spite of these difficulties, there is incontestable evidence of the existence of rural areas. As Lewis (1983) stated, the inescapable and simple truth is that there remains a fundamental distinction between a rural area and an urban sphere. It is, therefore, important that researchers interested in the activities and living conditions in rural areas notwithstanding the difficulties, acquire clearer understanding of what constitutes rurality and subsequently the likely challenges they might encounter when undertaking rural research programmes.

Apart from utilising practical rural knowledge in the design of rural research strategies and approaches, an exposure to real world conditions in rural areas and the extent to which they could impact on planned activities would ensure that researchers enrich their views and perceptions of what constitutes ‘rural’ and its diverse environments (Madu,2015). Also, researchers should not give up talking about the rural, since the idea of rurality, even though chaotic and unspecific, still is an important concept in the ordinary way of perceiving the world (Duenckmann, 2010).

Furthermore, rural is widely used as an expression for non-urban or peripheral regions without necessarily defining the concept or its spatial implications. Again, rural areas have peculiar characteristics that have led to a number of perceptions and viewpoints being formulated about them even though there is no general agreement on what the definition should be. Despite the debate and the difficulties in defining rural, many authors agree that most understanding of rural involves the use of either ecological, or occupational or socio-cultural dimension or a combination of the dimensions (Madu, 2002). There is also an agreement on the primary marks of rural areas especially in the developing countries. They are characterised by population regularly supported by extensive land uses within a sparsely populated open country (Wolfe and Fischer, 2003). Thus, one of the key variables used in distinguishing rurality is its often cited relatively small population size (Ghana Statistical Service, 2013).

Another important feature of rurality is the dominance of agricultural activities although its preeminence is on the decline due to declining fortunes from farming and rural economic diversification. However, OECD (2016a) was quick to add that rural is not synonymous with agriculture and is not synonymous with economic stagnation although low socio-economic status of rural dwellers is also a well-documented situation in rural studies. For instance, Arku and Arku (2010) emphasized that rural areas have limited physical infrastructure and this has slowed down improvements in socio- economic development programs.

Categorically, Ocheni and Nwankwo(2012) state that rural areas are easily identified by other various criteria, apart from population such as:

- a) Level of infrastructural development i.e. road networks, educational institutions, water supply, electricity, health facilities, communication, etc. The rural area lacks most if not all of these infrastructures and where they are available

the quality as well as quantity is usually below desirable standard.

- b) Occupational differentiation: Most rural dwellers earn their living by engaging in subsistent agriculture production.
- c) Housing: Housing in rural areas is generally below the standard an average person will be proud of.
- d) Extent of community planning: Community development activities in the rural areas are often carried out with little or no planning at all, such that future development activities cannot be undertaken without interfering with the existing structures.
- e) Arising from the combination of the above factors is a characteristic abject poverty when related to the economic buoyancy of urban centers.

Similarly, Ugwoke (2014) has shown that rural communities are characterised by bad roads and difficulties in transporting agricultural produce to the urban areas in Nigeria. Distant location is another primary characteristic of rural areas, especially in developing countries and this implies remoteness, accessibility difficulties and continuous separation from each other as well as major urban centres. These result in the need to traverse long distances in order to access vital support services or participate in various activities ((Johnson et al. 2011; Sseguya et al, 2013).

In addition to these primary marks, one would expect, under the general concept, a rural population to display certain distinctive patterns of knowledge, belief, experience, skills, value orientations and customs connected to country living. The distinctive cultural patterns, according to Wolfe and Fischer (2003), are treated as ancillary evidence in support of classifications made with the primary concepts.

In summary, evidence abounds in the literature that rural areas are settlements with the following features:

- Specific open landscape,
- A relatively, low population density,



- Greater part of the population being associated with agriculture and forestry,
- Traditional (close to nature) life styles and habits,
- Extensive (first and foremost agricultural and forest-related) use of land,
- A scarcity of built-up areas and settlement that is dispersed,
- A preponderance of inhabitants considering themselves as country-dwellers (Madu, 2010)

It is in line with the traditional approach supported by socio-cultural characteristics that Madu (2010) defined rural as areas of low population density, utilising land extensively and exhibiting distinctive socio-cultural characteristics associated with the rural setting, while, Fredericks (2012) sees rural as a spatial categorisation relative to “agricultural”, denoting a sectoral activity. This is also in line with the current view among sociologists that rural refers to areas with low population density, small size, relative isolation, where the major economic activity is found in agricultural occupations and where the people are relatively homogenous in their values, attitudes and behaviour (Sam, 2014).

**Rural Development:** Rural development is a particular and distinctive branch of development. It is influenced by, and also influence, development thinking and practice. However, there has been a divergent and shifting view about development in general and this results from the multifaceted nature of development (Madu, 2003). Consequently, any critical discussion on rural development must begin with acknowledging that there is no comprehensive definition of rural development.

Moreover, Ploeg et al (2000) has stated that it would not be possible at the moment to construct any comprehensive and generally acceptable definition even though people have varied ideas about rural development. As a result, rural development has

been described in different ways by different authors, depending on the discipline or line of thought of the person concerned (Ocheni and Nwankwo 2012). For example, many people think that rural development means agricultural development while to some, it is primarily concerned with welfare. These views are myopic because rural development should affect all aspect of the economic, social and political lives of the people who inhabit the rural areas. It should also be relevant to the alleviation of all the conditions associated with the rural sector including low income, poor health and sanitary conditions, poor housing conditions, etc.

It is true that economic base of the rural people is agriculture, but beyond food, they also need education, employment, decent housing, medical care, electricity, roads, means of communication, entertainment, facilities for social interaction, etc. It is broader because it entails much more than the development of agricultural production — for it is in fact a distinct approach to the development of the economy as a whole( Harris 1982). It was further argued by Harris (1982) that the expression ‘rural development’ may also be used to refer to processes of change in rural societies, not all of which involve action by governments. In this case, the activity of rural development as a form of state intervention must be considered simply as one of the forces concerned.

Rural development efforts, according to Ndingira (2005), entail a lineup of programme of actions targeted at increasing the efficiency of the rural population to the extent that there is rural steady power supply, to the extent that standard of living and productivity are enhanced, and education and the environmental sanitation promotion are witnessed. Thus, as a policy instrument, rural development conceptually transcends agricultural development to a technology-led agricultural productivity growth intervention. It encompasses rural life and culture and mirrors a

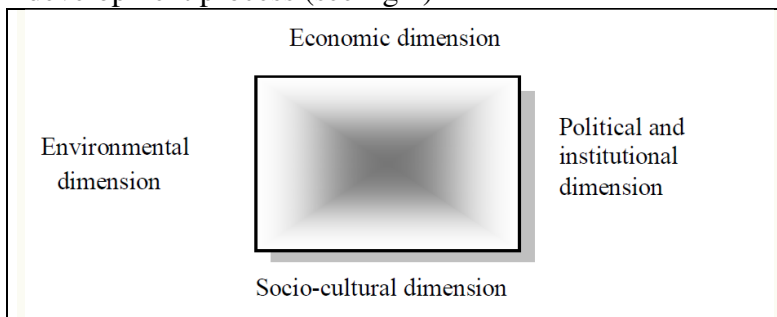
unique way of living that, with modernization, has seen a resurgence of its heritage and nostalgic value.

Ojonemi and Ogwu (2013), on their part, see rural development as a multi-dimensional approach by which the productivity, income and quality of life in terms of health, nutrition, education, and other characteristics of satisfactory life of rural people can be improved or transformed. It is, therefore, a far – reaching transformation of the social and economic structures, institutions, relationships and processes in any rural area. It is conceived as a balanced social and economic development, with emphasis on the equitable distribution as well as the creation of benefits (Sam 2014). A more encompassing description of rural development was given by the Government of South Africa (1997), which sees it as helping rural people set the priorities in their own communities through effective and democratic bodies by providing the local capacity, investment in basic infrastructure and social services, justice, equity and security, dealing with the injustices of the past and ensuring safety and security of the rural population, especially that of women.

From the foregoing, the central objectives of rural development revolve around the productivity, welfare and quality of life of the rural dwellers (Todaro and Smith, 2009). This explains why Ocheni and Nwankwo (2012) observe that all definitions have a central theme, which is “improvement of living conditions of the rural people. Accordingly Moseley (2003) defines rural development as a long and sustained process of economic, social, cultural and environmental changes that are designed to enhance the long-term well-being of the entire community. The dimension was further elaborated by Janković (2012) who states that rural development should comprise:

- (1) The economic dimension of rural development which is one of the key points of the debate about the economic viability of certain rural areas in relation to agricultural development, its diversification, and the development of the overall rural economy.

- (2) Socio-cultural dimension which is very broad and deals with social structure and social change in rural areas, poverty, social exclusion, position of social groups, housing issues, the functioning of the village as the local community, local - regional identity, cultural heritage, etc.
- 3) Environmental dimension, which have always intrinsically been linked with rural because people in rural areas live their life in harmony with nature and transforming nature in which they are incorporated.
- 4) Political and institutional dimension is also crucial, because it points to the fact that optimal management of rural development, which is not a spontaneous process of improving the quality of life through spillover of modernising and developments in urban centres but a strategic process of "managing" social change on a global, regional and local level, the development of institutions and systems support to this process as well as the participation of local people in the development process (see fig 2)



**Fig. 2: "Magic square" of rural development**

Source: Rajovic and Bulatovic (2015)

Two important characteristics of rural development can be identified from the discussion so far. Perhaps the most obvious is that it is an area-based approach to development. In other words, rural development policy targets particular geographical areas (rural areas) rather than an economic sector (e.g. agriculture, manufacturing, education) or a particular group of people (e.g.

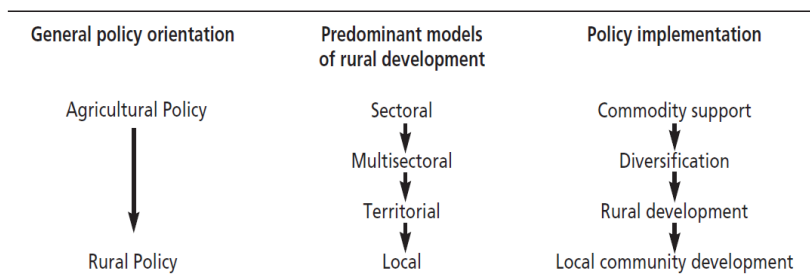
small farmers, female- headed households, ethnic minorities) – even though individual sectors or groups of people may be targeted as part of a broader rural development strategy (Harris, 1982).

Second is that it is multi-sectoral. It is a multi-dimensional process involving major changes in social structures, popular attitude and a condition of life from unsatisfactory to satisfactory and the involvement of rural people in decisions that affect their lives (Egwemi and Odo 2013; Otto and Ukpere , 2014)

It should, however, be noted here that globally, there has been a considerable number of discussions on the changes that are taking place in rural development both in terms of the nature of the changes underway within rural economies and in terms of the approaches adopted towards rural policy. The predominant characterisation is of a single change, commonly from an approach focused fundamentally on the agricultural sector towards one focused on rural territories and more diversified economic activity( Léon, 2005; OECD, 2006; Hodge and Midmore, 2008).Figure 2 illustrates the four predominant models of rural development.

The conceptualizations slowly evolved in tandem with a deeper appreciation of rural dynamics and, especially, its spatial context. In the developing countries this intervention involving sectoral and multi sectoral perspectives are exogenous to the rural space, eschew market mechanisms and are public sector-based. They reflect the practice of central authorities in designing interventions which deal with sectors of social and economic life in isolation from each other and/or which assume that socio-economic problems can be solved by standard measures, regardless of location or culture. The second approach stresses the endogenous roots of rural development exploiting collective territorial resources, geared towards qualitative and quantitative growth indicators and greater local control over environmental relationships (Fredericks, 2012).

Hodge and Midmore (2008), while comparing the approaches, argue that the territorial approach provides a more general analysis of conditions within particular types of area, or particularly on rural areas. They further stated that the move towards a territorial, and especially to a local approach, involves a much greater degree of choice and discretion in the ways in which public resources might be applied. Figure 3 and table 1 illustrate the evolution and theoretical approach to rural development process respectively.



**Fig.3:** The evolution of rural development policies.

Source: Hodge and Midmore (2008).

Table 1: Recent examples of theoretical approach to rural character

Bengs & Schmidt Thome (2006)	<b>The four basic approaches to rural character</b> <ol style="list-style-type: none"> <li>1. Definition of rural through urban features and important elements of rural identity</li> <li>2. Political and economic approaches to the conceptualisation of rural</li> <li>3. Rural character as a social construct</li> <li>4. Deconstruction approaches to rural character</li> </ol>
Cloke (2006)	<b>Three important theoretical framework for the conceptualisation of rural character</b> <ol style="list-style-type: none"> <li>1. Functional</li> <li>2. Political and economic</li> <li>3. Concept of the social construction of rural character</li> </ol>

Klemencic (2006)	<b>Theoretical “tools” for research of rural areas:</b> <ol style="list-style-type: none"> <li>1. Basic concepts: Rural (rural area), rural character, rural-urban continuum</li> <li>2. General geographic concepts: space, area, living space, territory...</li> <li>3. The process of modernisation, (sub) urbanisation, globalisation</li> <li>4. Expanding research frameworks: (post) structuralism, (post) modernity</li> <li>5. New forms of understanding of rural areas: culture, identity, connectivity, multifunctional, (post) productive</li> </ol>
Panelli (2006)	<b>Significant philosophical and theoretical directions for the conceptualisation of rural character:</b> <ol style="list-style-type: none"> <li>1. Positivist and quantitative</li> <li>2. Hermeneutic</li> <li>3. Marxist</li> <li>4. Feminist</li> <li>5. Postmodern and poststructuralist</li> </ol>
Perkins (2006)	<b>Understanding rural depends on:</b> <ol style="list-style-type: none"> <li>1. Political and economic</li> <li>2. Socio-cultural perspectives</li> </ol>
Zupanici (2005)	<b>The three most common approach to analysis of rural-urban configurations:</b> <ol style="list-style-type: none"> <li>1. The method of ideal types</li> <li>2. Distinction between rural and urban areas on the basis of empirical attributes</li> <li>3. The concept of rural-urban continuum</li> </ol>

Source: Rajovic and Bulatovic (2015:8)

## **THE IMPORTANCE OF GEOGRAPHY IN THE DEVELOPMENT PROCESS**

Many people, including academics from diverse disciplines, are ignorant about what geography can contribute to the various fields of development. Many people think that geography is only about place names and concerns about geographic ignorance usually focus on people's inability to locate cities, countries, and rivers on a world map. From this perspective, it may be a surprise to some that geography has relevance to many of the critical issues facing the society (Madu, 2015).

Contrary to this uninformed view, geographers and others using geographic knowledge and perspective, in fact, are engaged in valuable research and teaching on matters ranging from environmental change to social conflicts. The import of these activities derives from geography's focus on the evolving character and organisation of the earth's surface, on the ways in which the interactions of physical and human phenomena in space create distinctive places and regions, and on the influences those places and regions have on a wide range of natural and human events and processes (National Research Council, 1997a). In a classical work by Hartshorne (1939), the function of geography was spelt out thus: to provide accurate, orderly and rational description and interpretation of the variable character of the earth's surface.

Geography is a concept encompassing various dimensions, and this is tantamount to saying that geography affects development through not just one but many channels. Gallup et al (2003) distinguish between physical channels, such as the productivity of land, rainfall, or temperature, and human channels such as the location of populations with respect to coasts or urban centres.

Through these channels and in an integrative manner, geography enables people to understand their world locally and globally, make wise decisions about the planet and its resources, and become critical thinkers. There are three "lenses" through which



geographers view the world and theses are simply referred to as lenses of place, space, and scale (National Research Council, 1997b). Places are natural laboratories for the study of complex relationships among processes and phenomena and that is why it is usually said that the field is the laboratory of geographers (Madu, 2002). Consequently, geography has a long tradition of attempting to understand how different processes and phenomena interact in regions and localities, including an understanding of how these interactions give places their distinctive character. The systematic analysis of the different processes operating in a place provides an integrated understanding of its distinctiveness or character.

Even in a globalising world, uniqueness, specificity and distinctiveness are becoming important development assets. This is because, while many economic production functions and factors such as technology, information, finance and labour can either be quickly moved or found all around the globe, other development assets such as unique rural amenities, natural habitats, landscapes and local cultures are immobile and can only be experienced on the spot (Dax, 1998). It is through this experience that a differentiation into lagging and dynamic rural regions which are needed to reflect the actual very diverse development of these parts of the territories can be identified. Moreover, it has been established that a quantitative analysis of geographical patterns is considered a fundamental part of the evidence base for policy (ESPON), 2014; Madu, 2015).

Against this background, geography through its various specializations, apply the knowledge, skills and perspectives in resolving real-world problems including social, economic and environmental problems (Pacione 1999).The following are illustrations of this relevance in various sphere of human development including rural development.

In terms of economic development, geography asks and provides answers to questions such as: How and why do commodities, money, information, and power flow from one place to another? What characteristics of a place cause it to do better economically than another? What actions are best taken at national, regional, or local scales to improve economic development? How does global economic change relate to global environmental change? Accordingly, stark evidence of the strong and pervasive effects of geography on development is the fact that most of the world's poorer countries are located in the tropics, while the highest levels of development are found in non tropical areas (Gallup, 2003). Figure 4 illustrates this point vividly.

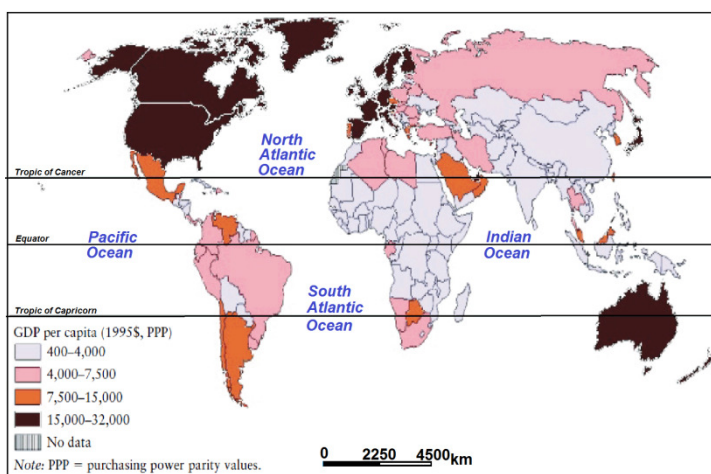


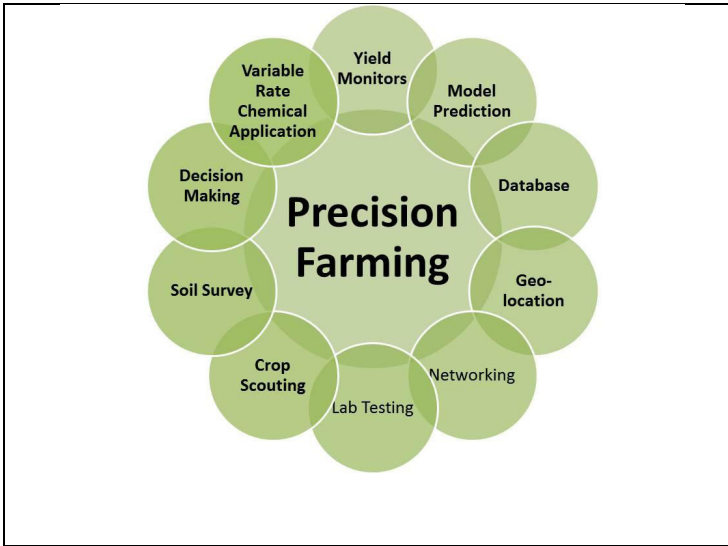
Fig 4: Global Distribution of Per Capita Income  
Source: Gallup et al (2003)

Summarily, the 2013 African Human Development Report, 'Humanity Divided' highlighted that economic consequences of geographic dynamics are important. Their better understanding can help appreciate past evolutions and possible futures and identify potentialities, constraints, and sources of economic, social and political tensions. Such an understanding, according to the report, can guide public action in order to develop inclusive growth,

protect natural resources, fight poverty, inequalities and exclusion, and promote solidarity.

Another important field that the use of geography especially Geographic Information System (GIS) is rapidly growing is the field of agriculture. This is due to the fact that more and more farmers are realising the value of GIS and how it can benefit them. Today, there are multiple usages of GIS in agriculture, the most prominent of which is **precision farming**. Precision farming, or precision agriculture, is the farming concept that integrates geographical data obtained from technology such as GIS and GPS which help to optimise the yield and lower the cost of agriculture (Goddard, Kryzanowski, Cannon, Izaurrealde and Martin, 2009). Furthermore, precision farming is not just beneficial to the farmers, it is also beneficial to nature and the environment as it helps to reduce the unnecessary impact of man and traditional farming techniques on the environment (Goddard et al, 2009).

With GIS and precision farming, farmers are able to determine the areas that need what in terms of nutrients, pest control and conditioning. This reduces the need and cost of pesticides, fertilizers and other agro-chemicals because farmers can now estimate the quantity of agro-chemical that is actually required. This process is also known as "site-specific" agriculture which refers to handling the smallest area of land as an independent element (Pfister, 1998; Mortimore, 2010). Therefore, precision farming using GIS along with other geographical technology essentially improves overall farming efficiency by giving farmers more specific information as to how to treat or farm their crops in order to achieve maximum yield while reducing upkeep costs (Indian Space Research Organization, 2008). Figure 5 shows the components of precision farming



**Fig 5:** The multiple components of precision farming.  
Source: Limpisathian (2011)

For environmental management, it has been argued that understanding and confronting the environmental degradation problem requires more than a physical analysis of particular pollutants or an institutional analysis of decision making structures. It also requires geographic analysis (National Research Council, 1997). In support of this view, Bebbington and Carney (1990) argue that because geography is perceived as a discipline that pays attention to the environmental implications and context of resource use, it has emerged as being worthy of interest. For Smith (1987), the contemporary discussions on sustainability needs geography to identify fragile physical environments requiring particular types of research, address the hazards of and potentials for farming the lands, help design ecologically stable and sustainable resource management systems in both favoured and marginal areas and assist in targeting, collecting and managing wild germ plasm.

*Furthermore, geographical perspectives and approaches are implemented in some areas of conflict and terrorism research. For example, a geographic analysis of ethnic conflicts can shed light on the spatial, territorial, and environmental dimensions of the ethnic groups' interaction (Bahgat and Medina, 2013). It raises questions about the nature and significance of particular political-territorial structures, the role of boundaries, the character of flows between places of influence and control, and the role of the physical environment in shaping conflicts and cooperation. Geographic works along these lines have clear implications for developing policy responses to ethnic conflicts.*

Also, approaching a socio-political problem, such as terrorism, through a geographic lens leads to a greater understanding of not only locations of terrorists and their activities, but spatial processes, social network connections, social systemic operations, and changes in space and time. Social, political, and other systems as well as their agents operate in specific geographical contexts, and if they are researched in socio-spatial or geopolitical realms, the influences of place and location on activities become quite clear (Bahgat and Medina, 2013).

*Again, geographic analysis has much to contribute to an understanding of the spread of disease. Epidemiologists are interested in being able to model the spread of disease by correlating populations or the movement of potential natural hosts, and that is dependent on an understanding of geography. Geography allows researchers to examine the effects of climate patterns, weather patterns, and spatial clusters of disease cases "to see where there might be vulnerability to outbreaks (King, 1997).*

Similarly, addressing the issues of global climate change requires an understanding of the nature and dynamics of climate change (IGU, 2015). Climate change involves enormously complex interactions among the atmosphere, hydrosphere, and biosphere. These interactions vary significantly across spatial scales. Thus, geographic perspectives that consider place and scale are essential for understanding potential climate changes. By mapping past climate variations, identifying regional continuities, and focusing on the spatial relationships between climate and vegetation patterns, geographic analysis contributes to the larger interdisciplinary efforts to understand the operation of the climate system—past, present, and future (Madu, 2015). These contributions, in turn, are critical to the development of numerical models that are needed if scientists are to understand the extent to which humans may be modifying the climate system and the implications of those modifications.

Geography is also important for educational development of a country. According to IGU (2015) geographical education is vital to equip the next generation of people with the knowledge, skills, attitudes, values, and practices to value, care, and make reasoned decisions for the planet. In fact, geography must be a part of any serious effort to meet the educational challenges implicit in a country's quest for development. This is because geography is both a powerful medium for promoting the education of individuals and a major contributor to international, environmental and development education (International Charter on Geographical Education, 1992). For instance, students need to be exposed to ideas and perspectives that cut across the physical-human divide that consider how developments in one place influence those in other places, that focus attention on the ways in which local circumstances affect understandings and activities, and that foster an appreciation for the diversity of peoples and landscapes that comprise the earth's surface. In the same vein, ESRI (2011) observes that geography *enables students to*

*understand their world locally to globally, make wise decisions about the planet and its resources, and become critical thinkers*

In recognition of this importance, the International Charter on Geographical Education in 1992 proclaims that the Commission on Geographical Education of the International Geographical Union is:

**Convinced** that geographical education is indispensable to the development of responsible and active citizens in the present and future world.

**Conscious** that geography can be an informing, enabling and stimulating subject at all levels in education, and contributes to a lifelong enjoyment and understanding of our world.

**Aware** that students require increasing international competence in order to ensure effective cooperation on a broad range of economic, political, cultural and environmental issues in a shrinking world.

**Concerned** that geographical education is neglected in some parts of the world, and lacks structure and coherence in others.

**Ready** to assist colleagues in counteracting illiteracy in all countries of the world (IGU, 2015)

## **RURAL DEVELOPMENT EFFORTS IN NIGERIA**

In line with the global changes and desire to develop the rural areas, a number of rural development plans and strategies have over the years been implemented in Nigeria. In fact since Nigeria gained her political independence in 1960, there has been a great impetus attached to the rural community development as a factor that advances the overall socio-economic development of the country. Accordingly, several approaches in terms of rural development planning and execution have been adopted. Some of these included the creation of states, local government areas, mobilisation of people for local participation in planning and implementation of community development projects in order to create new centres of development, and thus stem the drift from rural to urban areas. On the part of government, therefore, there is

the realisation that there is need to bring the neglected rural areas into the mainstream of national development (Egbe 2014).

The approaches, however have usually been determined by the interpretation given to rural development by the different regimes or interventionists (Agba and Chukwurah, 2014; Sam, 2014). Specifically, Nigeria has had many development plans including the 1st National Development Plan (1962-1968); 2nd National Development Plan (1970-1974); 3rd National Development Plan (1975-1980); 4th National Development Plan (1981-1985) and the three Rolling Plans 1990-1992, 1993-1995, 1996-1998. There was also Vision 2010 and Nigeria 20:2020, and the National Economic Empowerment and Development Strategy (NEEDS) (Paul, Agba, Chukwurah, 2014). Notable among the programmes by the past successive governments in the country are:

1. National Accelerated Food Production Programme (NAFPP), 1972
2. Operation Feed the Nation (OFN), 1976
3. Green Revolution Programme: to reduce food importation and increase local food production 1979
4. Agricultural Development Programmes (ADPs)
5. The Directorate for Food, Road and Rural Infrastructure (DFFRI), 1986
8. National Agricultural and Land Development Authority (NALDA), 1991
9. Better Life Programme for Rural Women (BLP), 1987
10. Family Support Programme (FSP), 1994
11. National Poverty Eradication Programme, 2001 and
12. National Economic Empowerments and Development Strategy (NEEDS), 2004

The implication is that the successive governments had the desire to transform the country, be it in terms of provision of infrastructure, human capacity development and even in the realm of social cum political development (Ibietan and Oghator 2013). In



the implementation of these programmes, some landmark achievements have been made and these include; increased rural productivity and environmental improvement in rural areas, provision and enhancement of rural infrastructure especially, rural telephony, water supply and transport development For instance, many rural communities now have potable water supply with distances from dwelling houses to water supply points drastically reduced (Madu, 2000; Madu, 2003).

Despite the efforts and progress so far made, a lot still remains to be done because the human conditions of very many rural communities in the country remain deplorable. This is why Olayiwola and Adeleye (2005) argue that the rural people in the country have benefited little from most of these rural development programmes. Similarly, Ocheni and Nwankwo (2012) are of the view that the analysis of some of the programmes of government since independence in its rural development efforts to date highlights their effects, which would explain why over 70 percent of the Nigerian populations still live below the poverty threshold. Also, Egemi and Odo (2013) argue that, in spite of the huge human and material resources committed by governments to develop the rural areas, the conditions in the rural areas in Nigeria leave much to be desired.

In terms of level of economic development, quality of life, access to opportunities, facilities and amenities, standard of living and general livability, Madu (2009) has shown that the gap between the urban and rural areas in Nigeria is very wide as shown in Table 2. Similarly, [Saheed](#) (2010) has shown that there is a high incidence of poverty in rural areas (Table, 2). The rural areas are therefore, usually grossly neglected as far as development projects and infrastructure are concerned. As a result of the relative underdevelopment of the rural areas when compared to the urban centers, rural areas are usually zones of high propensity for out-migration (Laah, Abba, Ishaya and Gana 2013).

Table 2 Spatial distribution of assets indices in Nigeria

<b>(a) Domicile</b>	<b>Asset index</b>
Rural	0.42
Urban	2.67
<b>b) Geo-political zone</b>	
North central	1.137
North east	1.105
North west	1.280
South east	3.450
South south	2.501
South west	3.733

Source Madu, (2009a)

Table 3: Spread trend in poverty levels, 1980-2004

Area	1980	1985	1992	1996	2004
National	27.2	46.3	42.7	65.6	54.4
Urban	17.2	37.8	37.8	58.2	43.2
Rural	28.3	51.4	45.0	69.3	63.3
Geo-political zone in Nigeria					
South South	13.2	45.7	40.8	58.2	35.1
South East	12.9	30.4	41.0	53.5	26.7
South West	13.4	38.6	43.1	60.9	43.0
North	32.2	50.8	46.0	64.7	67.0

Central					
North	34.3	50.4	44.3	63.4	63.3
East					
Size of household					
1	0.2	0.7	2.9	13.1	12.6
2-4	8.8	19.3	19.5	51.5	39.3
5-9	30.0	50.5	45.4	74.8	57.9
0-20	51.0	71.3	66.1	88.5	73.3
20	80.9	74.9	93.3	93.6	90.7
Educational level of household head					
No education	30.3	51.3	46.4	72.6	68.2
Primary	21.3	40.6	43.3	54.4	48.7
Secondary	7.6	27.2	30.3	52.0	44.3
Higher than secondary	24.3	24.2	25.8	49.2	26.3

Source: Saheed (2010)

In the same way, Anele (2012) describes the rural conditions in Nigeria as deplorable. He maintained, for example, that epileptic electricity supply which is a general problem in Nigeria is worse in the villages. Typically, in a month, electricity may be available only for twenty four hours cumulatively, a situation that makes life in the rural areas difficult and unattractive to the youths. Most rural dwellers are so poor that they cannot afford even the cheapest generating sets to illuminate their homes at night. Lack of motorable roads and portable water supply are serious problem in the rural areas. Because of inadequate road network, many farmers go through hell to evacuate their farm produce from the farms. Consequently, the inequality between urban and rural areas in Nigeria is very high (in terms of the provision of economic development, quality of life, access to opportunities, amenities, social services and standard of living), leading to what is suitably characterised as the rural- urban dichotomy(Paul, Agba and

Chukwurah ,2014). This explains why there has been a noticeable high level of rural-urban migration of youths in search of better standard of living and wider opportunities for meaningful economic and social activities.

This, according to Okhankhuele and Opafunso (2015), implies that the rural areas in Nigeria are being affected by several incapacities in various levels of severity such as: inaccessibility, seclusion, underdevelopment, poverty, drabness, boredom, ignorance, depopulation, hunger, and all types of sicknesses. Another consequence is migration from rural to urban areas which leads to a reduction in the number of rural populace. This has a negative effect on rural agricultural output and thus hinders the pace of development in the rural areas (Okhankhuele and Opafunso, 2015).

Other authors' view on rural conditions in Nigeria are summarised below:

- ▶ Apparent lack of basic infrastructural facilities and glaring presence of general low standard of living among the rural populace (Olatunbunso, 1975),
- ▶ Nigerian rural areas is equally characterized by apparent lack of health institutions as there are hardly any well equipped hospital health centres, clinics and maternal homes(Onah and Okoli 2002),
- ▶ Poverty is prevalent among the rural dwellers, as about 70 percent of the people in Nigeria living below poverty line are domiciled in the rural areas (Nwuke, 2004),
- ▶ The rural areas are characterised by deplorable road. There is a problem of rural transport, as mostly all the rural roads are not accessible and link bridges are dilapidated and in some cases even non – existent (Ele, 2006).
- ▶ There is, very apparently, poor quality education in most rural areas in Nigeria (Ele, 2006);

- ▶ Water supply in the Nigerian rural areas has also been discovered to be grossly inadequate and with the spread of water borne disease increased by the accompanying poor sanitary conditions (Ele, 2006),
- ▶ Rural areas in Nigeria are also characterized by depressingly meager annual per capita income, poor liveable houses and various forms of social and political isolation (Abah, 2010);
- ▶ There are deplorable road networks and absence of all year-round reliable access roads (Chukwuemeka, 2013).

It must be noted that Nigeria is not alone in this situation. It has been observed by OECD (2016b) that the conditions are similar to what obtains in other developing countries where evidences show that large gaps in economic and social conditions remain between urban and rural populations.

### **The missing link in Nigeria's rural development quest**

As earlier stated, with all the efforts made to uplift the qualitative standard of living of the rural inhabitants in Nigeria from pre-independence to post-independence, the sad situational position of the rural setting in the country persists. In fact, Muoghalu (1991) opines that, despite the numerous strategies adopted in Nigeria, the rural areas are at best worse off. However this is an over statement as some advances have been made as earlier observed. The failure was attributed by Ojonemi and Ogwu(2013) to a number of factors, including corruption and embezzlement of fund, adoption of Top-Bottom Model and absence of a reliable database. But, to Egbe (2014), the poor rural conditions exist because there is an enormous gap between policy formulation and implementation and the reality of the level of the development of the rural populace.

Worse still, rural development planning in the country does not translate to appropriate location of activities for improved rural welfare. These activities have included the provision of public services such as education, health, banks and similar services in

rural areas. They are usually not appropriately located in the country. The critical missing link in this initiative, therefore, remains the lack of coherent policy regarding the location and distribution of these services which entail the knowledge and applications of spatial processes (Owoola, 2002). This is against the OECD (2016a) categorical statement that policy responses must take into account the specific characteristics of each rural region since there are no one-size-fits-all solutions.

Moreover, with competitiveness now perceived as a key element in regional economic development, rural regional competitiveness relates to the theory of immobile resources which, by definition, are unique and intangible (Fredericks, 2012). These immobile, unique and intangible rural resources embed ecological (clean environment, biodiversity, clean and healthy food, high quality agricultural products, open space, natural and cultural landscapes), cultural (rural culture, folklore and the built environment, local cuisine, arts and crafts, local products and production methods, minority languages, traditional ways of life), and community values (social networks, kinship relations, mutual trust and understanding, special ways of communication). Such analytical frames are yet to underpin the contemporary Nigerian rural development model.

In Nigeria, therefore, the approach of targeting policies to rural areas on the basis of informed knowledge of rurality is still lacking and this to a large extent has been responsible for the poor and fragmented rural development in Nigeria (Madu, 2010). The consequences of lack of specific characteristics of each rural region on rural development are that the advantages associated with targeting policies to rural areas based on better understanding of the dynamics and sense of identity are not harnessed. This constitutes an important missing link in Nigeria's rural development effort.

### **The need to adopt a New Rural Development Paradigm**

The need for a new rural development paradigm, particularly for developing countries arose from a number of reasons. First, three billion people live in rural areas in developing countries and the number are expected to increase further over the next couple of decades. Second, rural areas in developing countries are characterised by high poverty rates, limited access to basic public services, and an overall lack of opportunities as we have seen. Third, actions aiming to improve rural livelihoods are not new, but the overwhelming reality facing many rural populations today suggests that the results of previous efforts have been limited. Fourth, achieving the recently launched Sustainable Development Goals will not be possible without the implementation of effective rural development strategies (OECD, 2016).

It was as a result of the need for policy change that rural development, which in the past was viewed in terms of sectoral policy, has shifted to a territorial policy, or arguably, further towards a “local” policy. This is good because, according to Hodge and Midmore (2008), from a social point of view, policy-making ought to be more precisely developed and targeted. This explains why in Europe, there is a powerful impetus to social and territorial cohesion of rural areas and attempt to provide a more efficient valorisation of local development potential, in accordance with the principles of sustainable development (Ristić, 2013). More importantly, OECD (2016b) has noted that without a new framework for rural development in developing countries, it is unlikely that the new Sustainable Development Goals will be met. One important approach being advocated is the territorial approach to rural development. The territorial approach, according to Ambrosio-Albalá and Bastiaensen (2010), may help to implement sector strategies and to attain the goals of aid effectiveness. Also OECD (2006b) has shown that the multi-disciplinary nature of rural development calls for comprehensive analytic frameworks to analyse and evaluate multi-sectoral, place-based approaches. This

approach to rural policy formulation and implementation promotes joint-action among rural agents, coordination between the different administrative levels of government and articulation among different sector policies addressing the problems of rural areas (agriculture, education, health, infrastructure, employment (ESPON, 2014).

The new approaches are vividly illustrated by the OECD's (2016a) New Rural Paradigm which stems from analysis of theory and practice of rural development policies over time and in both the developing and developed world .The following ten lessons are the products of the analysis:

1. Rural areas vary enormously, so rural strategies need to be tailored to each country's specific conditions
2. Governance is a key factor in the success or failure of rural development
3. Demographic dynamics play a vital role
4. Policies that build on rural-urban linkages can drive development
5. Agricultural development is key for improving welfare in many developing countries today
6. There is more to rural areas than agriculture
7. Inclusive infrastructure is critical for rural economic growth
8. Gender equality is fundamental for rural development
9. Inclusive policy approaches are necessary to reduce rural poverty
10. Rural development and environmental sustainability go hand in hand (OECD, 2016a).

Previously, rural policy in OECD countries focused on support for specific sectors such as agriculture and forestry and the typical approach was to provide sectoral subsidies to equalize income levels (OECD, 2016a). By contrast, the New Rural Paradigm as shown in Table 3 shifts the orientation of rural policy from supporting specific sectors to a holistic approach that tries to



identify how the various components of a local economy interact thereby advocating a place-based approach to rural development. Based on the experiences of the developed countries, a new rural development paradigm for developing countries was proposed as shown in Fig 6

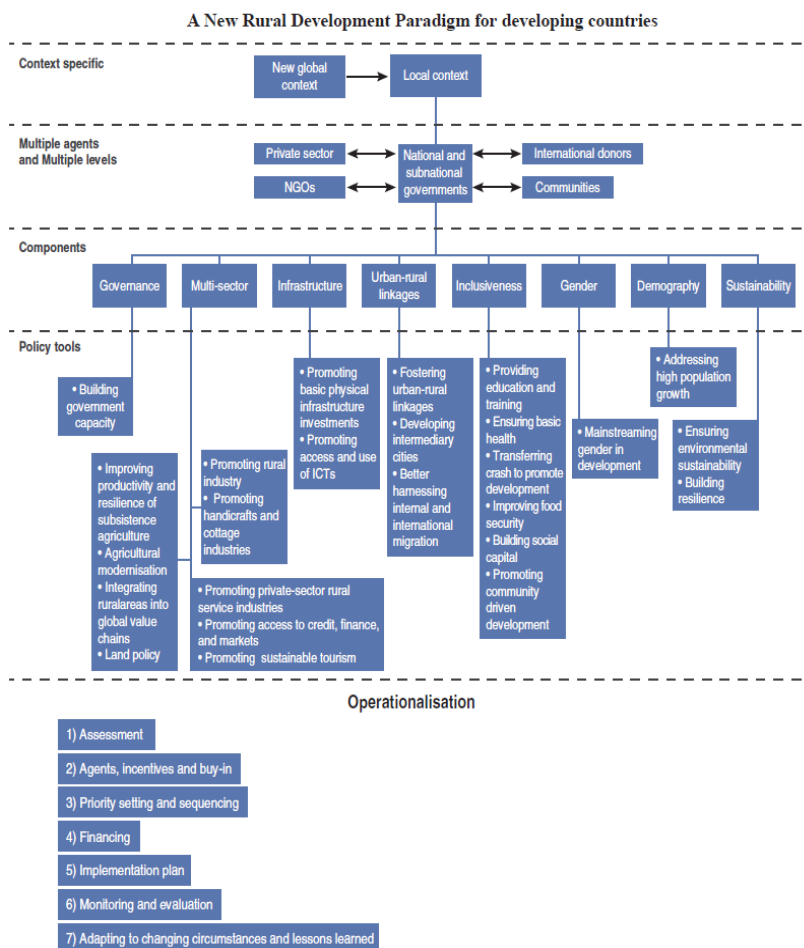
The feature of the New Rural Development Paradigm for developing countries shows that it:

- 1) Is multi-sectoral: focusing not just on agriculture, but also rural industry and services; and not just rural focused, but also building on rural-urban linkages
- 2) Is multi-agent and multi-level: involving not just national government, but also local and regional governments, the private sector, international donors, NGOs, and rural communities
- 3) Contains 8 key components, and includes an illustrative menu of 25 policy tools which offer opportunities for rural development in the 21st century (OECD, 2016b).

**Table 3: The New Rural Paradigm**

	<i>Old paradigm</i>	<i>New paradigm</i>
<i>Objectives</i>	<i>Equalization or entitlement approach, focused on farm income, farm competitiveness</i>	<i>Competitiveness of rural areas, valorization of local assets, exploitation of unused resources</i>
<i>Key Target sector</i>	<i>Sector based</i>	<i>Various sectors of rural economies e.g. rural tourism, manufacturing, ICT industry etc</i>
<i>Main Tools</i>	<i>Subsidies</i>	<i>Investments</i>
<i>Key sectors</i>	<i>National governments, farmers</i>	<i>All levels of government (supranational, national, regional and local), various local stakeholders (public, private, NGOs)</i>

**Source: OECD (2006)**



**Fig. 6: A New Rural Development Paradigm for developing countries**

Source: OECD, 2016b)

## **MY RESEARCH CONTRIBUTIONS**

My contributions towards closing the lacuna in rural development in the country and academic development, especially in the area of rural geography, can be grouped into four, namely determination of factors and patterns of rural development, designing a framework for rural classification, climate change vulnerability assessment and assessment of magnitude of environmental impacts. These will be discussed briefly with some specific examples.

## **DETERMINATION OF FACTORS AND PATTERNS OF RURAL DEVELOPMENT**

**Madu, I.A. (2003): Institutional Framework for Rural Development Administration in Nigeria. *Journal of Rural Development* Vol. 22, No. 1 pp 45 – 64.**

The research indicated the influence of rural market integration on the pattern of rural development in Nsukka region of South-eastern Nigeria. In this region, rural markets are periodic, implying that their meetings are separated by marketless days and that people do visit them alternatively. The markets are, therefore, structured by the inter-linkages or integration within the rural system. This prompted the need to investigate how the links or the structures of the markets influence spatial pattern of rural development in the region. To accomplish this task, 35 rural communities and their corresponding markets were randomly selected and primary data generated on them was analysed by network statistics. The results of the analyses show that the pattern of rural development among the study region was to a large extent influenced by the strength of the market linkages. This calls for a concerted effort to improve on the rural market integration for a more effective rural development of the region.

**Madu, I.A. (2006a): Market Hierarchy in Rural communities of Nsukka Region, Enugu State. *Journal of Rural Development* Vol. 25 no2 pp205-220**

Rural markets perform important functions in the development of rural communities in developing countries. This is why concerted efforts should be made for their development. However, such development should be based on proper understanding of their functions and linkages. Since these attributes are hierarchically organized, an investigation into the markets hierarchy becomes imperative before any intervention measure is proposed. This research is aimed at achieving this feat by using Nsukka region, south-eastern Nigeria as a case study. To achieve the objectives, data from randomly selected 35 markets were analysed. The results indicate that the markets are hierarchical differentiated in a sequence, which approximates christaller's market maximizing principles. One important planning implication of the findings is that the markets are central places, which can be used as a basis for service provision and socio-economic intervention measures in rural communities.

**Madu(2007):The Underlying Factors of Rural Development Patterns in the Nsukka Region of Southeastern Nigeria, *Journal of Rural and Community Development* Vol. 2 No2 2007, pp110-122.**

This case study analyses the patterns and underlying factors of rural development in the Nsukka region of southeastern Nigeria. It identifies leading and lagging communities with a view to making appropriate recommendations for even development. To achieve this aim, 35 rural communities were randomly selected and their scores on selected infrastructural facilities were used to ascertain the pattern of rural development. The relative strength of the underlying factors was determined by factor analysis. The results reveal a disparity in the spatial distribution of rural development facilities, with communities on the central plateau doing better.

Factor analysis revealed 4 underlying factors that account for 71.3% of the total variance. One implication of the results is that achievement of spatially even rural development will require the adoption of an integrated governmental approach.

## **DESIGNING A FRAMEWORK FOR RURAL CLASSIFICATION AND LEVEL OF RURAL DEVELOPMENT**

In many developing countries of the world, a single criterion of population size obtained through census is still being used to define rural areas. In Nigeria, for instance, National Population Commission (1991) defines a rural area as a settlement with less than 20,000 inhabitants. This is wrong because the definition, based solely on population size, masks the varying intensity or degree of rurality exhibited in a country like Nigeria (Alaneme, 2000)

Moreover, the grouping of the population figures of separate localities, villages and hamlets, within the territory of autonomous communities in Nigeria end up grouping the communities as towns when they are actually rural in character. This, according to Alaneme (2000), masks the rural characters of the localities, hamlets and villages in the country. The National Population Commission (1998) itself recognizes that the grouping explains the rather large proportion of urban dwellers in some states in Nigeria.

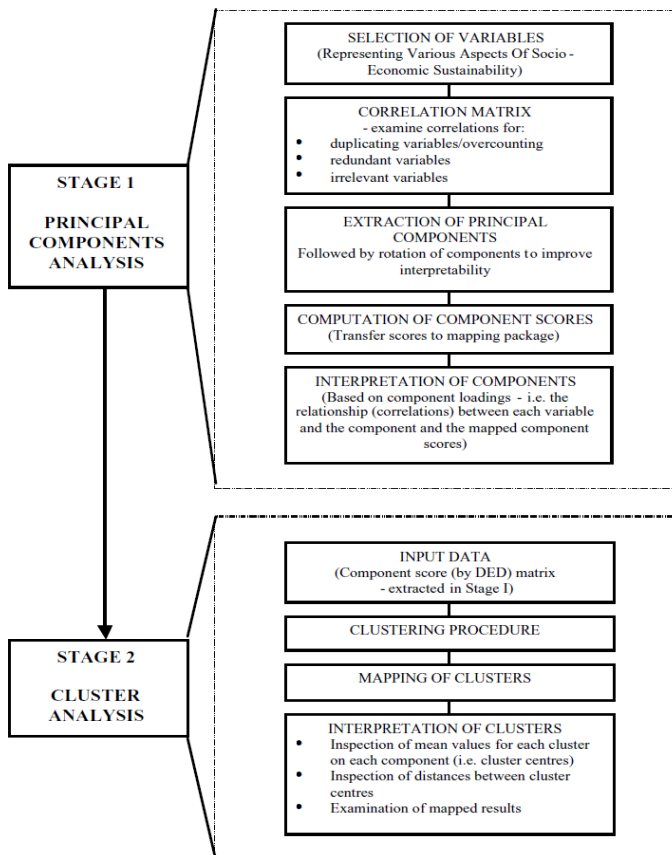
Worse still, there has not been any attempt to map rurality in Nigeria. Rather, the assumption has always been that what is not urban as mapped by the National Population Commission is rural. As is well known, the dichotomous measures masks important rural-urban differences and do not capture the breadth of variations in rural areas (AvRuskin, 2000; Gillmor, 2003; Mountrakis et al, 2005; Muula, 2007). More importantly, effective rural development policies must be based on an accurate classification of the essential characteristics of the regional types. Such a framework allows the identification of both needs and

opportunities in the rural areas (Bogdanov, Meredith and Efstratoglou, 2007).

Against this background, it becomes pertinent that the true picture of the rural situation in Nigeria can only be obtained by an analysis and mapping of the rural structure based on internationally recognised indicators and methodology. This is necessary because today, changes in rural areas are accompanied by growing requirements for comparability especially in statistics across countries, reflecting the phenomenon of globalisation (IWG, Ag. RI 2005). Such comparative analysis can only be made when uniform approaches are used (Muula, 2007). It was this need that compelled me to embark on the study of the structure of rurality in Nigeria as illustrated and described below.

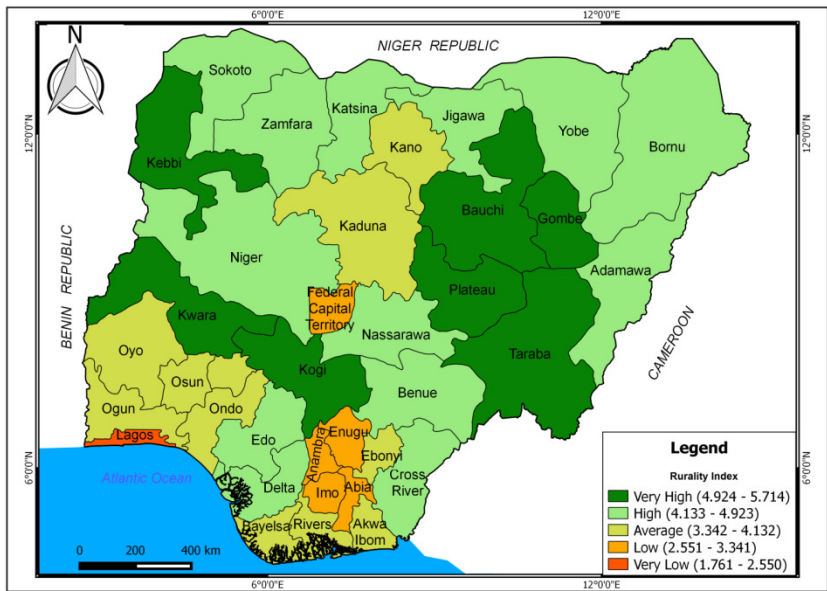
**Madu (2009a):The Structure and Patterns of Rurality in Nigeria, [GeoJournal Vol. 75, No 2](#), 2009 pp 175-184, DOI: 10.1007/s10708-009-9282-9**

The aim of this paper is to describe the rural structure of Nigeria on the basis of some indicators and internationally accepted methodology rather than just the population criterion that is presently used in the country (Fig. 7). This is necessary because as is the case in most developing countries, this method of determining the rural structure does not make for comparison between countries. To achieve the aim, 14 indicators were selected from the 2006 Annual Abstract of Statistics and Factor Analysis employed to determine the structure, while the pattern was mapped by Arc View GIS 3.2a software. The factor analysis shows that 5 underlying dimensions which explain 77.6% of the total variance determine the structure of rurality in Nigeria. Based on the pattern of the factor loadings, 4 typologies of rurality were identified (Fig.8). Furthermore, the research shows that Nigeria is still dominantly rural. The implications of the findings and the need for concerted efforts on rural development in the country are highlighted.



**Fig 7: Outline of steps involved in the determination of Rural Typology**  
**Source: Madu (2009a)**





**Fig.8: Pattern of Rurality in Nigeria**

Source: Madu(2009a)

## ASSESSMENT OF MAGNITUDE OF ENVIRONMENTAL IMPACTS

It is generally recognised that a number of geographic and environmental factors influence development and spatial inequality. However, the magnitudes of the factors are usually neglected. This informed my research in the assessment of environmental impacts as indicated by the following works.

**Madu (2006b): Spatial Inequality in Nigeria: The Imperative of Geographic Perspectives in the Development Process. *Journal of Social and Economic Development*, Vol. 8 No. 2 July - December 2006 pp 105-120.**

The focus of this paper is on regional inequality in socio-economic standards in Nigeria. The inequality in the country is not only known to have persisted and widened over the years, but is also

known to have a spatial dimension. In this study, the magnitude of the inequality was determined by the mean logarithmic deviation index using data from the Nigeria Demographic and Health Survey of 2003, while the influence of geography was assessed through regression analysis. The results show total inequality indices of 0.260 and 0.321 for rural urban and regional decompositions respectively and indicate that geography is a significant determinant of socio-economic conditions in the country. The southern regions, which are more favoured geographically, have advanced more than the northern. Therefore, a geographic perspective in development policies and planning is required in order to reduce or eliminate inequality in Nigeria. Accordingly, recommendations were made to redress the adverse effects of geography so as to achieve even development in the country.

**Madu (2009a): The Environmental Impact of Regional Disparity in Population and Wealth Distribution in Nigeria. *Environment, Development and Sustainability*, Vol. 11, pp265-276 Springer DO10.1007/s10668007-910-0**

The disparity in both population and wealth distribution in Nigeria by geopolitical zones is well recognised. There is also the recognition that some of the environmental problems in certain sections of the country can be attributed to the imbalance in both population and wealth distribution. Hence, the various agitations for environmental resource control in the country. However, research that shows the magnitude of the linkages between the disparity and the environmental degradation on regional bases is lacking. This provides the basis for this research. To achieve the aim of the research, a STIRPAT model was employed as an analytical tool. The findings show that the southern geopolitical zones are generally more densely populated and wealthier than the northern zones. The south is also experiencing a higher degree of environmental resource degradation attributable to anthropogenic factors. Thus, there is congruence between population densities,

wealth distribution and environmental degradation in Nigeria. Therefore, the achievement of sustainable environment and development in Nigeria requires deliberate policies to mitigate the impact of population concentration and wealth creation on the environment.

**Madu (2009c): The Impacts of Anthropogenic Factors on the Environment in Nigeria, Journal of Environmental Management Vol. 90, pp 1422-1426 Elsevier Amsterdam.**

Generally speaking, there has been a consensus on the primary drivers of anthropogenic induced environmental degradation. However, little progress has been made in determining the magnitude of the impacts, particularly in developing countries. This creates a lacuna that needs to be filled up. The purpose of this study, therefore, is to ascertain the degree of anthropogenic induced environmental impacts in Nigeria. To achieve the aim, fossil fuel consumption was used as a surrogate for carbon dioxide emissions while the magnitude of the impacts was determined by regression statistics and the STIRPAT model. The results show that only three variables, namely population, affluence and urbanisation were statistically significant and that the regression model accounts for 60% of the variation in the environmental impacts. However, population and affluence, which have ecological elasticities of 1.699 and 2.709, respectively, are the most important anthropogenic drivers of environmental impacts in Nigeria while urbanisation, with an elasticity of 0.570, reduces the effect of the impacts. This implies that modernization brings about a reduction in environmental impacts. The paper, therefore, makes a significant contribution to knowledge by successfully testing the STIRPAT model in this part of the world and by being the first application of the model at political units below the regional or nation states.

**Madu (2012a): Spatial Impacts of Rural Population Pressure on Agricultural Land Use in Nigeria. Applied Spatial Analysis Vol. 5, pp123–135**

The aim of the study is to determine the magnitude of impacts of population pressure on agricultural land use in Nigeria. This is necessary because there is currently lack of comparative empirical works needed for general conclusions on the changing population-land relationships and the associated agricultural land use in the country. Rather, what exist are pockets of studies centered on few localities in some states of the country thereby making comparism impossible between the states in the country. This creates the need for a national level analysis. To achieve the aim, the linear regression coefficients of the selected variables were employed in the computation of the impacts using the STIRPAT model. Thereafter, the states were grouped according to their degrees of impacts using hierarchical cluster analysis and mapped by Arc View 3.2a GIS. The results show that the model accounts for 95% of the variation of impacts on agricultural land use and that the south eastern states are experiencing the severest impact due to rural population pressure. The study, therefore, apart from successfully testing the applicability of STIRPAT model in the determination of the impacts of demographic variables on agricultural land use, provides a framework for prioritising the states in the country for appropriate agriculture and rural development.

**CLIMATE CHANGE VULNERABILITY ASSESSMENT**

Studies have shown that key impacts that may be associated with vulnerabilities to climate change are found in many social, economic, biological and geo-physical systems, even as various tabulations of risks, impacts and vulnerabilities have been provided in the literature. An integrated assessment of current climate change vulnerability in Nigeria for the development of

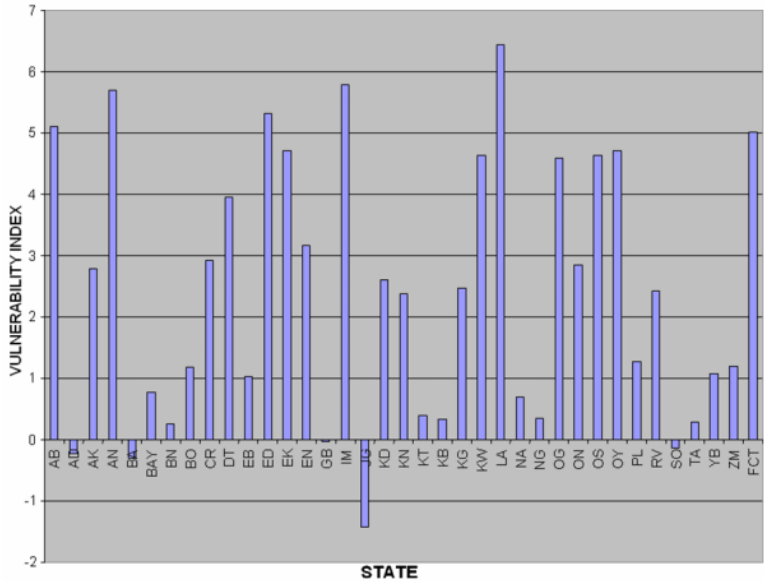
evidence based adaptation policy is lacking. This propelled my interest in climate change vulnerability assessment.

**Madu (2012b): Spatial Vulnerability of Rural Nigeria to Climate Change: Implications for Internal Security. The International Journal of Climate Change: Impacts and Responses, Volume 3, Issue 4 2012, pp79-97.**

The study assesses the spatial patterns of vulnerability to climate change in Nigeria as a backdrop to highlighting the security implications of the patterns as well as to underscore the need to mainstream climate change adaptation into the rural development process. This is necessary because policies on climate change adaptation in the country have often been made without empirical underpinnings—and, thus, without sufficient analytic rigor—on the spatial patterns of vulnerability to climate change. To achieve this aim, an integrated vulnerability assessment approach was employed by classifying socio-economic and biophysical indicators of vulnerability into adaptive capacity, sensitivity, and exposure to ascertain the degree of vulnerability of each state in Nigeria based on rural household data. The states were then grouped on the basis of similarity using hierarchical cluster analysis and mapped using 3.20a GIS software. The data for the research were obtained from Annual Abstract of Statistics 2006, General Household Survey 2006, and the Nigerian Core Welfare indicator Questionnaire Survey (CWIQ) 2006. The analysis of the patterns show that there are four classes of vulnerability to climate change in the country: high, moderate, low and very low, with average vulnerability indices of -0.01, 1.02, and 2.70 and 5.04 respectively. The analysis also shows that the most vulnerable households are in the northern states that experience frequent drought and are characterised by a high degree of rurality and poor socio-economic development. Based on the spatial picture of vulnerability to climate change and the security implications to the country, measures to mainstream climate change adaptation into

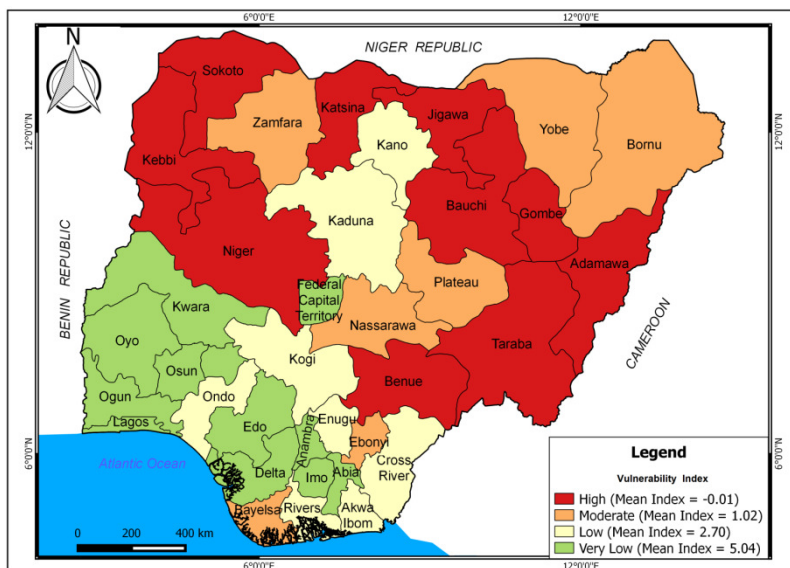
rural development process were recommended including improvement in farming technology and development of grazing reserves.

Figure 9 is a graphical Illustration of Rural Households' Vulnerability to Climate Change in Nigeria by States and the FCT while Fig 10 shows the patterns of rural households' vulnerability to climate change in Nigeria.



**Figure 9:** A graphical Illustration of Rural Households' Vulnerability to Climate Change in Nigeria.

**Source:** Madu (2012a)



**Fig. 10:** Patterns of Rural Households' Vulnerability to Climate change in Nigeria

**Source:** Madu (2012a)

**Madu (2012c): Spatial vulnerability assessments of rural households to climate change in Nigeria: Towards evidence-based adaptation policies.** Being a paper presented at the 2012 Berlin Conference on the Human Dimensions of Global Environmental Change held at Environmental Policy Research Centre, The Freie Universitat, Berlin from 5-6th October 2012

The ability to identify and understand the extent of vulnerability to climate change is an essential pre-requisite for reducing climate change impacts. This is because a reasonable starting point for any climate adaptation process is to assess the vulnerability of the target community or stakeholders. Consequently, the study assesses the spatial patterns of vulnerability to climate change in Nigeria in order to provide empirical evidence necessary for climate change adaptation policies and strategies in the country. An integrated assessment approach was employed to analyse

vulnerability of rural households' data comprising socio-economic and biophysical indicators aggregated at state levels. The results show that rural households in the northern states are more vulnerable because of greater exposure to climate induced environmental hazards and low adaptive capacity which results from poor local economies, inadequate healthcare and education systems and poor infrastructure. Based on the results of the assessment, measures to prioritise and target the vulnerable states for appropriate climate change adaptations within the context of sustainable rural development were suggested.

**Madu (2016): Rurality and climate change vulnerability in Nigeria: Assessment towards evidence based even rural development policy. Being a paper presented at the 2016 Berlin Conference on Global Environmental Change, The Freie Universität Berlin. From May 23rd to May 24th the 2016**

Climate change affects certain groups of people more than others, depending on where they live and their ability to cope with different climate hazards. People residing in rural areas are, particularly, vulnerable to climate change because of remoteness, their dependence to a large extent on natural resources for income and livelihoods and limited capacity to adapt to climate change. Despite the growing knowledge base on climate change and its impacts, much remains to be understood about the linkages between climate change and rural development. Also, current climate change vulnerability assessment especially at the international level tend to focus more on the identification of the most vulnerable countries and fail to capture the differences within countries which are very useful in defining the risks posed by climate change and in providing a starting point for identifying measures to adapt to climate change impacts. This paper closes the research gap by assessing the linkages between rurality and climate change vulnerability using states in Nigeria. The purpose



is to provide empirical evidence for robust (‘no-regrets’) decision-making policies for climate change adaptation and even rural development of Nigeria. To achieve this, rural attributes (based on ecological, occupational and socio-cultural characteristics) were obtained and rurality index computed by aggregating the weighted scores of selected rural characteristics. Also, socio-economic and biophysical indicators of vulnerability were obtained and weighted using Principal Component Analysis and analyzed using integrated vulnerability assessment approach. Finally, regression analysis was used to ascertain the magnitude of rural characteristics on climate change vulnerability. The results show a spatial variation of vulnerability with northern states being more vulnerable because of both higher degrees of rurality and lower adaptive capacity. Figure 11 shows vulnerability by Geo-political zones in the country. Consequently, measures to improve the adaptive capacity of the rural households and bring about even rural development in the country were proposed.

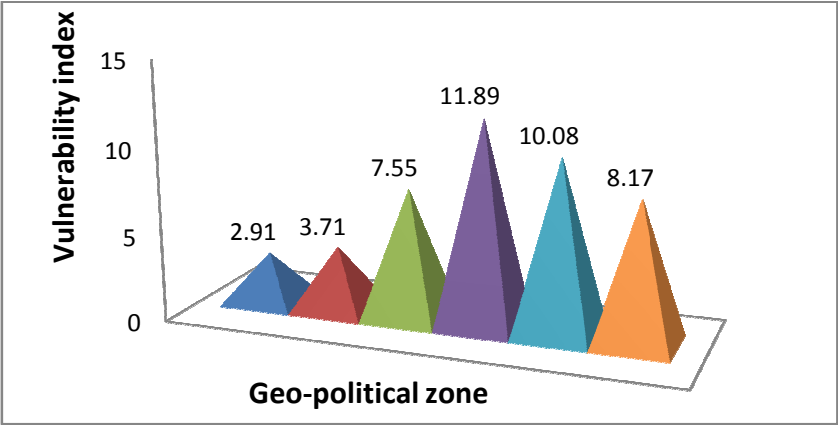


Figure 11: Climate change vulnerability by Geo-political Zones in Nigeria.

Source: Madu (2016)

N	NE	N	SW	SE	SW
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Note that the lower the value, the less the adaptive capacity and hence the more vulnerability.

## CONCLUSION

The study and practice of rural development are important and requires skills and insights from a wide range of disciplines because of the broad concerns and multi-dimensional, multi-sectoral nature of rural development. It is equally important that efforts to achieve rural development be intensified because rural areas make important contributions to national development, including economic development and prosperity. These contributions though different from those made by urban areas are complementary with positive outcomes for both.

The failure of rural development efforts in Nigeria like in most developing countries requires the adoption of a new rural development paradigm. This requires important changes in how policies are conceived and implemented to include a cross-cutting and multi-level governance approach. Designing rural development policy for different communities or territories requires the pooling of knowledge held by a wide variety of public and private actors.

In this paper, the contributions of geography to rural development were illustrated .It is in my view that if everyone becomes concerned about ‘whereness’ and spatial interactions and if rural development planners incorporates geographic perspective into rural development planning, the rural areas will achieve the desired development and the imbalance between urban and rural areas will be drastically reduced in Nigeria. This entails that the specific characteristics and conditions of each rural region have to be taken into account in order to achieve sustainable rural development. In conclusion therefore, rural development efforts should be intensified in the country with emphasis on specific territorial capital and by using rural typologies to better target areas of need.

## ACKNOWLEDGEMENTS

I must first thank and appreciate God for what He is and who He has done in my life. Having come from a poor and humble home and having gone through a number of challenges including health challenges and yet being able to attain my present position is a clear evidence of God's grace and favour. To express my feeling and in my own little way of praising God, I would like everyone to join me in singing the **Lourdes magnificent (My soul now glorifies)** as follows:

My soul now glorifies  
The Lord who is my Saviour.  
Rejoice for who am I,  
That God has shown me his favour.....

Next, I thank my parents, Mr. Emmanuel Madu Ugwuezeonah of Umuigboke, Agbamere and Mrs Maria Madu (nee Ezugwu-Okwor) of Ogboduele, Eha both in Eha-Aluona in Nsukka LGA of Enugu State for the opportunity of this life. Sadly, they did not live to enjoy the fruit of their labour, for while my mother died when I was a baby, my father died during my National Youth Service in 1985. But God is wonderful. I lacked little or nothing as a growing child because of the early loss of my mother. That was because I was properly brought up by my step mother, Mrs Oyima Madu (nee Ugwuanyi Nwasogwa Orlu) of Oziokwe Uwani Agbamere who was indecently my father's first wife. Regrettably, she too did not enjoy what she laboured for as she died when I was in secondary school.

I could not have attained the level I am today without the help of my elder brother, Mr Patrick Madu who trained me from primary to the university level. To him and his wife, Mrs Roseline Madu I owe lot of gratitude. I am also grateful to my other brothers and sisters for their understanding, cooperation and support in different ways. They are Late Mrs Maria Ezugwu, Mrs Agnes Eze, late Mrs

Regina Ugwuedem, Mr Livinus Madu, Major Celestine Madu and Mr Innocent Madu.

I now turn to my immediate family that has been a source of my strength. First I am grateful to God for giving me an attractive, charming, loving, caring and protective wife in the person of Mrs. Patricia Onyemaechi Madu who like in Tobit 8:11 become my sister in 1996 when we got married. It is through her that I really come to believe that God reveals his plan to his friends for there is absolutely nothing that can happen to the family without it being revealed to her. I equally want to appreciate my children, namely Canice, Victor, Bob-Manuel and Santos who have been wonderful and are clear manifestation of God's favour to the family.

Apart from my immediate and extended family, I belong to other families by providence. I thank God for the grace of always being liked by people I come in contact with to the extent of taking me as a member of their family. First is Dr E.C. Iwuji's family of Atta in Ikeduru LGA of Imo State. My relationship with the family justifies the Igbo adage which says that when a child washes his hand clean, he/she dines with the elders. I say so because I was introduced to the family as a houseboy in late 1975 but like Joseph in Egypt soon became the doyen of the family to the extent that I started dinning and winning with them and there was no longer any difference between me and any other member of the family. From 1975 to date, the relationship has been like that. I am, therefore, grateful to the family for their support, care, encouragement and for making me understand that humility pays. Regrettably, Mrs Dorathy Iwuji is no longer alive to see what her 'boy', Ignatius has become.

I appreciate the family of late Chief and Mrs Francis Ngwu of Umunnegwa in Nsukka town who also adopted me as their son during my secondary school days at Nsukka High School. In fact it was when I was living with them that I made most of the close

friends that I have today. They include Festus Ugwu, Emma Ugwuoke, Engr Cosmas Ezenma, Dr Tony Onysishi, and Engr Kelvin Ezenma, Julius Attama and late Aaron Ezugwu.

Also, Late Mr Ugwuoke Eze and his family- my Land lord at Hill top during my first year in the university deserve special appreciation. They also treated me as a member of the family rather than as a tenant. My friendship with the children particularly Edwin and Fidelis has continued to date.

My special thanks also go to the family of Chief Ignatius Ugwu (Ododo Ani) and his dear wife Mrs. Christiana Ugwu (nee Ezugwu Okwor), my cousin who made their country home Amaochime, Eha-Aluomna a second home for me. Also, to be mentioned is late Cyril Okwor of Ogboduele, my baptism father and his wife Virginia who provided me with early moral education.

I thank my special friends, Mr Festus Ugwu, a Lagos based business man, Engr Cosmas Chuks Ezenma, ICSS Package Manager; Egina FPSO Project of Total /ELF Petroleum Lagos and Navy Captain Anenechukwu Kelvin Ezenma, General Manager production, Naval Shipyard Ltd, Port Harcourt for their tremendous support not only for this lecture but in many other academic programs and projects that I have embarked upon. It should be mentioned here that my two weeks training at the Galilee Management Institute Israel was to a large extent sponsored by Engr Chuks. The two engineers and brothers from Nguru Nsukka have also been a source of inspiration to my children. Also, Mr Emmanuel Agbo of Honeywell Company Lagos who is another trusted friend from Nguru Nsukka deserves a special commendation, particularly for mobilising support from Lagos axis. I thank him immensely.

My appreciation turns to the members of the academic community of this great university. First, in a special way I sincerely thank the

Vice Chancellor, Prof Benjamin Ozumba for his understanding, openness and encouragement. He is the most accessible Vice chancellor I have ever known. He is also a listening father to both students and staff. I am privileged to be a dean under his leadership and I am grateful.

Next is my mentor and motivator, Prof J.C. Nwafor who not only supervised my Msc project and Ph.D thesis, but also facilitated my employment in the university. He also took me to a number of workshops and conferences and it was through him that I learnt to write articles for publication. He also opened my eyes to the opportunities available in environmental impact assessment. We jointly wrote a popular book titled *Issues in Population and Rural Development*. I thank you Prof.

Prof G.E.K. Ofomata, late Prof R.N.C Anyadike and Dr T.C.Mbagwu (my Msc supervisor before he retired) ,all of the Department of Geography, were very instrumental to my academic development. Specifically, Prof Ofomata was a father of the Department and when he retired, he was succeeded by Prof Anyadike in fathering the department. Prof Anyadike motivated and encouraged many of us in the department to write top quality journal articles. We will continue to miss him in the department. The current Head of the Department, Prof (Mrs) P.C.Onokala has also been influential to my career development as my lecturer, Dean and HOD at different periods. She has been a source of inspiration through her astuteness and dedication to duty. I thank her very much. I have also benefited a lot from other members of the department in one way or the other and I appreciate them all. They are: Prof P.O.Phil Eze, Dr. M.C. Obeta, Dr. T.C. Nzeadibe, Dr. H.C. Nnamchi , Dr. C.K. Ajaero, Mr. A.N. Ali, Mr. C.A. Onyekwelu , Mr. A.T. Mozie , Mr. R.U. Ayadiuno, Mrs L.C. Mba, Mrs. C.N. Ayogu, Miss Ijeoma Nwosu, Miss Thecla Akukwe, Mr. U.C. Ezech, Miss G.O. Omeh, Mr Chinedu Ogbodo and Cosmas Ndichie. Mr Ogbodo made the maps for this lecture. It should also

be mentioned that Dr Ajaero supplied most of the material through email from South Africa and also proof read the draft.

I also must acknowledge the support and encouragement from other academic staff of the Faculty of the Social Sciences. They include: Prof Okey Ibeanu, late Prof Julius Ozioko, Prof E.U.M.Igbo, Prof Tagbo Ugwu, Prof Malachy Okwueze, Mr P.C.Chukwu, Prof C.C Agu, Rev. Fr Prof H.C.Ichoku, Dr E.R. Ukwueze, Dr Tony Orji, Dr Nath Urama, Prof Mrs R.C.Onah, Prof Fab Onah, Prof Aloy Okolie, Dr Mrs S.U. Agu, Prof Mrs Ibeagha, Dr Leonard Ugwu, Dr E.I.Onyishi, Dr Aaron Agbo, Dr Peter Mba, Prof Mrs Vero Okeke, Prof E E Anugwom, Prof Mrs Nkoli Ezumah , Prof Mrs Joe Alumanah, Late Prof Ken Ifesinachi, Dr Tony Onyishi, Mr Alex Nzeyi, Dr Tony Areji and Dr C.C. Ike and other faculty members, including the administrative staff at the Dean's office

I also appreciate the people of my community, Agbamere, Eha – Alumona in Nsukka LGA of Enugu State beginning with His Royal Highness Igwe, Patrick Ezugwu and Cabinet Members, the member of Agbamere Progressive Union Nsukka Branch and Nwannedinamba which is the Women Wing and Umuigboke Progressive Union, Agbamere and Eha- Alumona Welfare Association. You all deserve special recognition. Next, is my big brother and the most illustrious son of the community, Chief William Agbo( Osuofia 1), MD, Wilson Nigeria Ltd and his dear wife Mrs Charity Agbo, Manager Wilgas Nigeria Ltd., Chief Agbo has contributed so much to the development of the community that he deserves a special mention in any gathering like this. It will interest you to note that he single handedly built St Michael's Catholic Church, Agbamere. He has also been a motivator and a source of inspiration to me.

In a very special way I salute members and families of Comity -25, made up of educated, professionals and achievers of Agbamere. The club's annual Christmas party has become a rallying point for

the members and their families on annual basis. I have benefited a lot from the club.

I must also at this juncture acknowledge the support from my in-laws, late Mr. and Mrs. Raphael Ezeh of Owerre Ugwu Agbamere. Mr. Raphael was an embodiment of wisdom and I learnt a lot from him. The family was blessed with very enterprising children, including Dr Emmanuel Eze who is the Town Union President, Mr. Christian Eze, Deputy Director, Environmental Health Enugu State Local Government Service Commission and Mr. Hillary Eze, a banker with the UBA. The other children apart from my wife are Mrs Cordilia Ugwueze, Mrs. Benedette Odo and Mrs. Joy Odo. They have all been supportive and cooperative. The same can also be said of my co-inlaws, namely late Mr. Chukwuma Ukwueze, Mr. Josephat Odo, Chief Cosmas Ugwu and Mr Abel Odo. I am grateful to you all.

The chaplains (past and present) and members of St Peter's Chaplaincy, University of Nigeria Nsukka also deserve my appreciation. Here, Msgr. T .O. Onoyima stand out for his outstanding performance in the chaplaincy for 14 years plus and his role in building my family spirituality. The family will always appreciate him. The current chaplain, Rev Fr Dr Amuluche Gregory Nnamani has also been wonderful. He can best be described as a silent achiever. I also thank Rev Fr Luke Eze, Rev Fr Hillary Ogbaka, Rev Fr Otegburu, Rev Fr Gabrael Ezema, Rev Fr Osita Izigga and Rev Fr Makata for their dedication and prayers. Similarly, my home parish priest, St Micheal's Parish Agbamere, Rev Fr Gilbert Ezugwu deserves special thanks for always praying and supporting the family. I must also not forget both the Diocesan and Deanery Laity Council Chaplains, namely Rev Fr Chibundu Omeje and Rev Fr Jude Nwodo respectively for their leadership styles and support of the Laity Council of which I am the Diocesan President.



I also in a special way appreciate the Knights and Ladies of St Mulumba, St Peter's Sub-Council UNN for being real brothers and sisters to me. The spirit of brotherhood in the order is wonderful.

I am also very grateful to members of Anglican Grammar School, Nsukka formerly Nsukka High School Old Boys Association of which I am Nsukka Branch President for their support and solidarity. I always look forward to the monthly meeting of the association because of the happiness the meetings bring.

In a special way I thank Prof Mrs Nkadi Onyegegbu of Institute of Education, Prof Mrs Uju Umeji of the Department of Geology, Dr Mrs M.U. Nwuegbu of Nmandi Azikiwe Library, University of Nigeria Nsukka and Mrs Vero Obi, a retired school principal who were my teachers at Nsukka High School for their roles in molding my character when it mattered most.

I will also use these occasion to thank my successful Ph.D students, namely, Dr C.K Ajaero, a Senior Lecturer Department of Geography University of Nigeria Nsukka who is currently a research fellow in South Africa, Dr Abuh Issa Noah, Director of Census, National Population Commission Abuja and Dr Akintoye, Oluyemi Ayorinde, Senior Lecturer, Department of Geography and Environmental Management, University of Calabar. To my current post graduate students, I am equally grateful.

I sincerely thank the Chairman and members of the Senate Ceremonial Committee for the wonderful organisation of this lecture. In a special way, I thank the former Chairman, Senate Ceremonial Committee, Prof Malachy Okwueze, a Brother Knight and fellow Old Boy of Nsukka High School who motivated and encouraged me to present this inaugural lecture.

I also appreciate the members of the planning committee for this inaugural headed by Dr E.R. Ukwueze of the Department of

Economics for doing a good job. Finally, I thank all staff and students and guests present at this lecture for being a wonderful audience. May God continue to guide and protect you in Jesus name.

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**INAUGURAL LECTURES  
OF THE UNIVERSITY OF NIGERIA, NSUKKA**

**1. Prof. Ikenna Nzimiro – 1976**

**Title:** The Crisis in the Social Sciences: The Nigerian Situation.

**2. Prof. Chika Okonjo – 1976**

**Title:** Economic Science, Imperialism and Nigerian Development.

**3. Prof. K. S. Hegde, Vet. Medicine – 1977**

**Title:**

**4. Prof. D. I. Nwoga – 1977**

**Title:** Visions Alternatives: Literary Studies in a Transitional Culture.

**5. Prof. J. A. Umeh – 1977**

**Title:** Land Policies and Compulsory Acquisition of Private Land for Public Purposes in Nigeria.

**6. Prof. D. C. Nwafo - 1984**

**Title:** The Surgeon as an Academic.

**7. Prof. G. E. K. Ofomata – February 22, 1985**

**Title:** Soil Erosion in Nigeria: The view of a Geomorphologist.

**8. Prof. E. U. Odigboh - July 5, 1985**

**Title:** Mechanization of Cassava Production and Processing: A Decade of Design and Development.

**9. Prof. R. O. Ohuche – 1986**

**Title:** Discovering What Learners have attained in Mathematics.

**10. Prof. S. C. Ohaegbulam – August 1, 1986**

**Title:** Brain Surgery, a Luxury in a Developing Country Like Nigeria?

**11. Prof. Ikpendu Christopher Ononogbu - November 5, 1998**

**Title:** Lipids: Your Friend or Foe .

**12. Prof. V. F. Harbor-Peters – July 5, 2001**

**Title:** Unmasking some Aversive Aspects of Schools Mathematics and Strategies for Averting them.

**13. Prof. Peter Olisanwuche Esedebe – September 11, 2003**

**Title:** Reflections on History, Nation-Building and the University of Nigeria.

**14. Prof. Emeka P. Nwabueze – June 30, 2005**

**Title:** In the Spirit of Tespis: The Theatre Arts and National Integration.

**15. Prof. Ignatius U. Obi – July 25, 2006**

**Title:** What have I done as an Agricultural Scientist? (Achievements, Problems and Solution Proposals).

**16. Prof. Philip A. Nwachukwu – Nov. 15, 2006**

**Title:** A Journey through the Uncharted Terrain of Igbo Linguistics.

**17. Rev. Fr. Prof. Amechi Nicholas Akwanya – February 28, 2007**

**Title:** English Language Learning in Nigeria: In Search of an Enabling Principle.

**18. Prof. T. Uzodinma Nwala – March 15, 2007**

**Title:** The Otonti Nduka Mandate: From Tradition to Modernity.

**19. Prof. John Akolisa Ibemesi – June 14, 2007**

**Title:** From Studies in Polymers and Vegetable oils to Sanitization of the Academic System.

**20. Prof. Obi Uzoma Njoku - June 26, 2007**

**Title:** Lipid Biochemistry: Providing New Insights in our Environment.

**21. Prof. Humphrey Assisi Asobie – July 18, 2007**

**Title:** Re-inventing the Study of International Relations: From State and State Power to Man and Social Forces.

**22. Prof. Aloy Emeka Aghaji – July 26, 2007**

**Title:** Prostate Cancer: Coping with the Monster in a Third World Setting.

**23. Prof. Eunice A. C. Okeke - August 9, 2007**

**Title:** Making Science Education Accessible to All.

**24. Prof. Chibuike U. Uche – August 30, 2007**

**Title:** The Future of the Past in Banking.

**25. Prof. Ossie O. Enekwe – September 5, 2007**

**Title:** Beyond Entertainment: A Reflection on Drama and Theatre.



**26. Prof. Onyechi Obidoa – September 12, 2007**

**Title:** Life does not depend on the Liver: Some Retrospectives, Perspectives and Relevance in Xenobiosis, Chemoprevention and Capacity Building.

**27. Prof. Okechukwu Ibeanu – February 20, 2008**

**Title:** Affluence and Affliction: The Niger Delta as a Critique of Political Science in Nigeria.

**28. Prof. Damian Ugwuntikiri Opata – March 27, 2008**

**Title:** Delay and Justice in the Lore and Literature of Igbo Extraction.

**29. Rev. Fr. Prof. Elobuike Malachy Nwabuisi – April 15, 2008**

**Title:** Education for What?

**30. Prof. Michael C. Madukwe – April 29, 2008**

**Title:** Practice without Policy: The Nigerian Agricultural Extension Service.

**31. Prof. Anthony N. Eke – May 14, 2008**

**Title:** Delay and Control in Differential Equations: Apogee of Development.

**32. Prof. Joe Sonne Chinyere Mbagwu – May 29, 2008**

**Title:** From Paradox to Reality: Unfolding the Discipline of Soil Physics in Soil Science.

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**Title:** Igbo Studies: From the Plantations of West Indies to the Forest Lands of West Africa, 1766 – 2008.

- 34. Prof. Benjamin Chukwuma Ozumba – July 16, 2008**  
**Title:** Improving Maternal Health in Developing Countries: The Nigerian Experience.
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**Title:** Poly-Functional Egg: How can it be Replaced?
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**Title:** Geomagnetic Research in Physics: The Journey So Far.
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**Title:** Pediatric Ophthalmology: Past, Present and Future.

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**Title:** Disease Transition in Sub-Saharan Africa: The Case of Non-Communicable Diseases in Nigeria.

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Insights from Educational Measurement and Evaluation

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**Title:** Nonformal Education and the Promise of Development

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**Title:** Microbial Technology & Food Security: Micro Organisms Put Safe Food on Our Tables

**107. Professor (Mrs.) Rose Uzoma Osuji – April 28, 2016**

**Title:** Lovely Surprises Come in Small Packages: Thin Film Photovoltaics

**108. Professor Pat Uche Okpoko – May 12, 2016**

**Title:** Humanising Environmental Impact Assessment Practice in Nigeria: A Cultural Anthropological Excursion

**109. Rev. Fr. Professor Chuka Mike Ifeagwazi - May 26, 2016**

**Title:** Stress-Illness Connection: Critical Factors Moderating the Link

**110. Professor Ignatius Ani Madu – June 16, 2016**

**Title:** Geographic Perspective: The Missing Link In Nigeria's Quest For Rural Development

## Note

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