

ANALYSIS OF DEVELOPMENT CLUSTERS IN THE WESTERN NIGER-DELTA, NIGERIA

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ABSTRACT

This study examined the spatial clustering of selected socio-economic facilities in the various Local Government Areas (LGAs) of Western Niger-Delta, Nigeria with a view to determine if the development pattern in the area is clustered or scattered in space. The research adopted the non-experimental research design since there was no manipulation of the variables involved. A set of socio-economic variables that served as indicators of development were collected from diverse sources and analyzed using gini-coefficient and the non-hierarchical cluster analytical technique. The cluster result showed that ninety percent (90%) of the LGAs in the study are deprived in terms of the distribution of selected indicators of development. Two levels of clustering representing highly deprived and deprived, clusters were achieved. The picture reviewed in this study is such that although, most of the LGAs in the study area appears not be done well in development terms, the observed growth pattern proceeds in a discernable pattern resulting in the clustering of development between and among LGAs in the Western Niger Delta. The paper opines that since western Niger Delta area is structured by ethnic groups rather than class, planning prescriptions in the area should aim to promote the material and non material claims of disadvantaged groups and regions through redistributive planning. This can be achieved through the identification and building of institutions; entronement of development policies that promotes social justice; group identity and participatory democracy.

Keywords: Development clusters; spatial inequality, Region; Development; Regional growth; Social Justice; Redistributive planning

1. Background

One of the visible manifestations of growth is the fact that they are unequally distributed across spatial units. Spatial inequality is not only a mark of underdevelopment it is a stumbling block to true human welfare to the extent that, it creates privileged groups of individuals on one hand, and deprived ones on the other (Mabogunje, 1980; Kirby, 1982). Gore, cited in Okafor (2004) notes that, regional problems derive from geographical unevenness either

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in the distribution pattern of development, or in the conditions that engender development. In many cases, difference in growth may be linked unequal access to power between advantaged and lagging regions, and institutional weaknesses within the latter.

In poor regions where regional elites have particularly concentrated power, decentralization may also deepen both intra-and inter-regional inequalities. A causal look at Nigeria's development pace, signals that the issue of inequality as been significant and on the increase. The recognition of the imbalance in development in the post colonial Nigeria led to deliberate efforts aimed at reducing spatial inequality in the nation's development as contained in the various National Development Plans. (1975-1980). For example, the Second National Development Plan (1970-1974) aptly stated 'a situation where some parts of the country are experiencing rapid growth while other parts are lagging behind can no longer be tolerated' (FGN, 1970). The thrust of the second national development plan therefore, was to establish Nigeria as a united, strong, and self-reliant nation...a just and egalitarian society. The Third and fourth National Development Plans also aimed at 'establishing the country firmly as a just and egalitarian society putting premium on the need to reducing inequalities in inter personal incomes and promoting balanced development among the various communities in the different geographical areas of the country'

A review of literature indicates that several attempts to develop the delta (including the Western Niger-Delta) have been in the form of setting up of development interventionist agencies by one administration or the other. These agencies included the Niger Delta Development Board,(NDDDB) in 1961; Oil Mineral Producing Areas Development Commission (OMPADEC) in 1992; Niger Delta Development Commission (NDDC) in 2000; and the creation of Ministry of Niger-Delta in 2008. A cursory look at the development pace in the study area shows that despite these efforts by one government or the other, wide disparities in development outcomes persist.

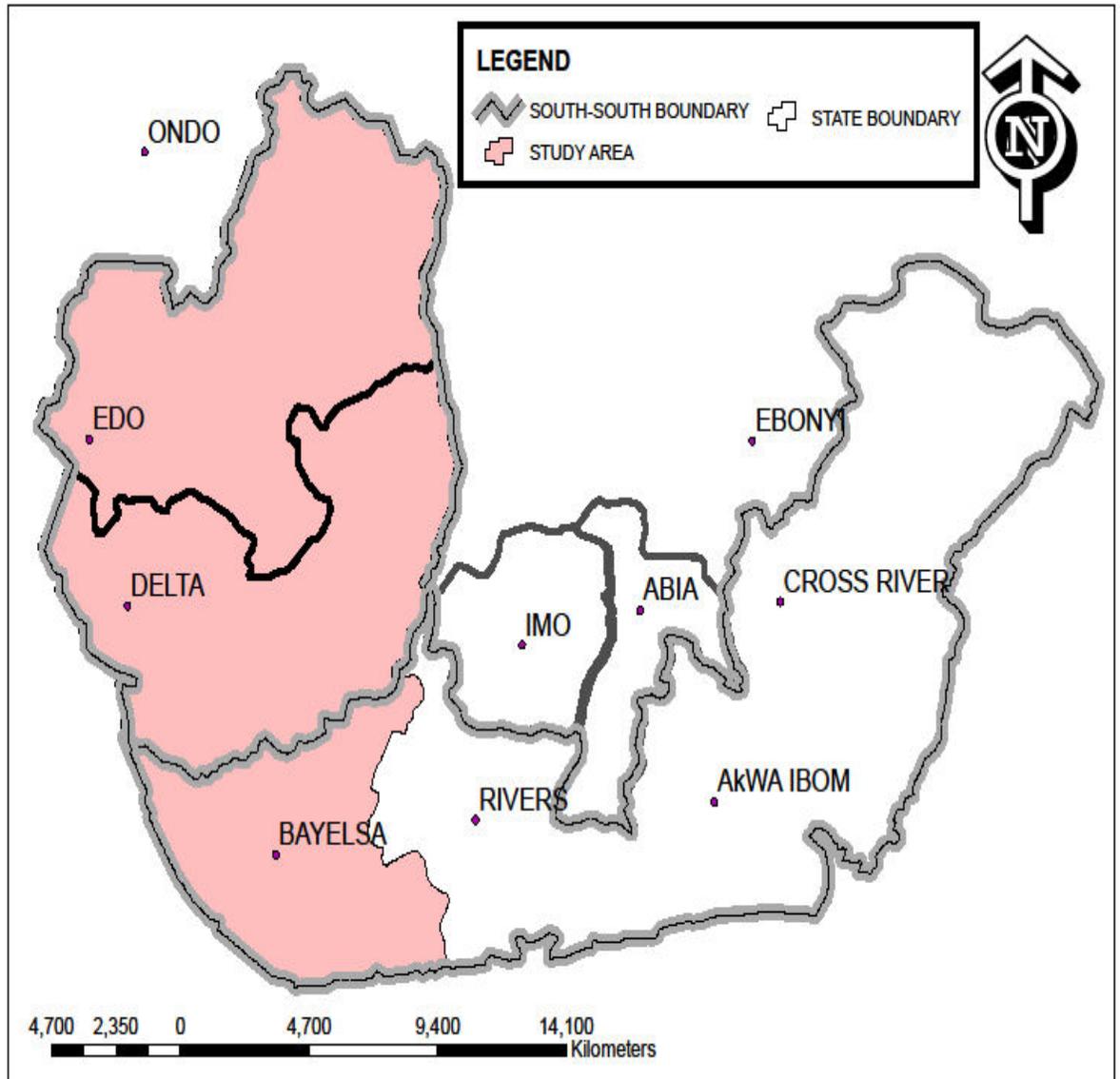
The current study x-rays the development clusters in the South-Western Niger-Delta of Nigeria with a view to examining if there is a discernable pattern in development among the LGAs in the three states that constitute the region.

2.Study Location

Western Niger Delta consists of the western section of the coastal South-South, Nigeria which includes Delta, Edo and Bayelsa States. This area of delta is heterogeneous with several ethnic groups including the Urhobo, Isoko, Itsekiri, Izon; Ukwuani; the Bini; Auchi; Esako; and Igara. Their livelihoods are primarily fishing and farming. The region is extremely important, not only to Nigeria, but to the whole world due to its oil reserves. The region produces immense oil wealth and has become the engine of Nigeria's economy accounting for the bulk of Nigeria's foreign earnings. (see fig 1).

Nigeria is one of the largest producer of oil in Africa most of which comes from the Niger Delta area of which the Western Niger Delta is part. Since the advent of oil exploration over four decades ago, the region has become the breadwinner of the nation, which is main

Figure 1: Western Niger Delta Administrative



source of foreign exchange earnings for the nation as a whole. Since 1975 until date, Oil and gas from the region accounts for 90% of the nation's export earnings. The region remains the sick man of the nation, the least developed constituency of the country in physical and socio-economic terms.

The natural delta of the Niger River is a vast sedimentary basin. The deltaic deposits comprise mainly medium to coarse unconsolidated sands, silt, clay, shale, and peat. The delta is mostly a flat, low-lying swampy basin criss-crossed by a dense network of meandering rivers and creeks. There are four broad ecological zones in the region defined by both relief and hydrological characteristics. These are, from the coast inland, the coastal sandy barrier ridge zone, the mangrove swamp zone, the freshwater swamp zone and the lowland rainforest zone.

The tidal influence of the marine and brackish waters, the coastal barrier islands support freshwater forests and associated fauna. These islands are also often flooded during the year when rainfall is heavy. Moving inland, the mangrove swamp zone occurs immediately after the barrier islands. It is the swampiest of the ecological zones, being essentially a massive swamp dotted with islands of dry land covering about 10,240 square kilometres (Mosunmolu 1998).

3. Conceptual Orientation/Previous work

There exist some theoretical frames each of which tries to proffer explanation to development in space. The aggregate growth theory (international trade, sector, and export theories) is one of these theories that argue that, the development of a region 'may result from either endogenous or exogenous factors or a combination of both'. These models have been criticized given their over reliance on trade as the only factor accounting for regional development. The failure of spatial equilibrium models to address the persistence of under-developed localities in both advanced and developing countries, led to the emergence of the polarized regional development models. These models opines that, socio-economic development have been historically characterized by increasing geographical concentration both at global level and within single countries as a result of the uncontrolled actions of powerful polarizing and centralizing forces inherent in the development process itself. Prominent among these theories, is the theory of cumulative causation pioneered by Myrdal (1957) and Hirschman (1958).

Myrdal's cumulative causation model opines that 'forces in the market normally tend to increase rather than decrease the inequalities between regions, meaning that once a region, by virtue of some initial advantages moves ahead of others, new increments of activities and growth will tend to be concentrated in the areas of the country' through backwash effect (Myrdal) or polarization effect (Hirsch man). The theory suggests that, with the setting in of diseconomies of scale, development will spread (Myrdal) or trickle down (Hirsch man) to the other regions.

Perroux (1955) growth- pole model provides that ‘growth does not appear everywhere at the same time, but manifest in points or poles of growth with variable intensities, it spreads by different channels and with variable terminal effects for the economic space to which centripetal forces are attracted and with time, centrifugal forces are emanate throughout the field of influence of activities constituting the pole’ (Onokerhoraye, & Omuta, 1994). Perroux constructed his model based on an abstract ‘economic space’ devoid of any geographical constraints. However, we know that growth does not take place in vacuum but within a geographic area. Boudeville (1966) however translated Perroux growth pole into growth-center meaning a propulsive industry located in the urban center, or simply put, the geographical clustering of economic activity. According to Onokerhoraye, & Omuta, (1994) with the setting in of diffusion, existing pattern of population, concentration, will lead to the transformation of the space-economy.

The export-based theory by North (1955) has it that, the development of a region is a function of the ratio of its basic and non-basic activities. The input-output model traces the movement of goods in terms of input –output linkages and value creation among sectors or regions. While the concept argues that increase in regional income is determined by increase in export earnings. The neo-classical theories suggest that, given a free economy, growth potentials will even-out among regions. Unfortunately, the simplicity of economic based theory can be deceptive, misleading, and characterized by both technical and conceptual problems. The identification of basic and non-basic activities is particularly a thorny problem.. The failure of these theories to explain the rising tide of inequality among regions is a weakness in their conceptual effectiveness.

With the demise of the rational comprehensive planning as the dominate form of planning theory, there has emerged a range of normative theories aimed at explaining how planning can be conducted to achieve better outcomes. Judith Innes (1995) refers to communicative action approaches in planning theory as a new paradigm that changes the emphasis from the “should be” of planning practice to the study of what planners do. Underpinning the analyses of what planners do is the conviction that she or he is not just.

Normative planning theories recognize opines that all forms of knowledge are socially constructed and that values are not Predetermined but are established in the communicative process itself. The examination of what planners do has revealed the role that planners can play in facilitating or hindering such communication (Innes 1995). Of these theories, those associated with communicative planning theory take centre-stage. Forester (1989) opined that planning ought to be perfect and by extension democratic. The original work on communicative planning theory was by Habermas who noted that if the processes of planning are inclusive, empathetic, and open, and if existing power between participants can be neutralized then, the outcome of such a process could be considered valid. The communicative planning theory believe so much in the civil society as a potent source of democracy and as well, a vehicle for placing pressure on the state to act responsively.

The theory seeks a bottom-to-top approach to the transformation of the society emphasizing that just local processes can change the broader distribution of resources and power (Fainstein, 1995). The inability to always have consensus within a society with diverse expectations is however a major setback of the communicative planning theories.

A variant of communicative theory is the multicultural planning theory by Sandercoak (1998). Sandercoak (op cit) opposed the idea of universal citizenship noting that, the society is fragmented by identity (such as sex, race, & ethnic grouping), and that the role of the planner is to recognize the various groups in the planning process. This means that in the distribution societies resources, what constitute justice may be culturally specific and need to be uncovered through ‘different ways of knowing’ For Sandercoak (op cit), planning in any context must link knowledge to action, to empower the oppressed and marginalized regions, to resist exploitation and the denial of their authenticity

Still on normative planning theory, Fainstein (2000) came up with the just city theory which shares some identity with Marxist thinking. She argued that planning should aim at achieving redistribution, equity, and justice. Fainstein (2000) (op cit) argues that Justice requires dampening of sentiments based on group identity, greater commitment to common ends, and identification of institutions and policies that offer broadly appealing benefits

Accepting that the society is structured by groups rather than class, her concern are less with planning which aims to valorize and promote the claims (material and non material) of these groups, rather than with how groups can benefit from the redistributive planning. For Fainstein (2000), just processes do not necessarily produce just outcomes as opined by Habermas but, that the ‘substantive content’ or the impact of planning decisions should be judged as well as their impact on equity. A major setback of the just city planning theory is on how redistribution and equity will play out and whose duty it is to judge what is just or not.

Most studies on spatial pattern of development (e.g Enoh, 1981; Adeyemo, 1999; and Igwe, 2002) concentrated on individual states in the region. The present work therefore seeks to examine the clustering of development in the different LGAs in Western Niger Delta, Nigeria

4.Methodology

The data for this study came from secondary sources mainly from Published government statistics collected from the different LGAs and States that make up the study area. Information was also obtained from Nigeria Year Books, academic journals, maps, etc. The development indicators adopted in this work are those considered vital for human well-being. Fortunately, these indicators meets the socio-psychological needs of man put forward by the American-sociologist, Maslow (1954).These indicators are seen as basic amenities needed to support effective living of any community.

The local government areas served as aerial units of analysis. Analysis at the local LGA level is based on the conviction that, adopting smaller area unit (LGA) in any study such as this, will produce a clearer picture of the existing variation in the socio-economic development among LGAs. In a study as this, one major snag is that of generating appropriate variables for measuring socio-economic development. Because 'development' is a nebulous concept, depending on its constituents one may run the risk of applying subjective values as to what is, and what is not relevant (Adebisi, 1998). In this study, the choices of socio-economic indices were based on the condition: appropriateness of the variables and the availability of the data covering all the LGAs in the study region. The selected indicators of development which are mainly educational and health related includes:

- number of publicly owned primary schools per '000 population; 2014
- number of publicly owned secondary schools per '000 population 2014
- primary school enrolment,2014
- secondary school enrolment, 2014
- number of qualified teacher's to primary school pupils, 2014
- number of qualified teacher's to secondary school pupils; 2014
- number of maternity centres/'000 population, 2014
- number of hospitals/'000 population, 2014
- number of doctors/'000 population,2014
- number of doctor/'000 population, 2014
- number of nurses/midwives/'000 population, 2014
- number of hospital beds/'000 population, 2014
- number of maternity beds/'000 population, 2014
- number of pharmacist/'000 population, 2014

Since spatial patterns of areas is better appreciated by, attempting a classification of areas in which members of same group are similar, cluster analysis was used to attempt a classification of the LGAs into distinct groups based on their performance on each of the indicators. In other to determine the performance of each local government areas on the selected indicators of development, Gini-co-efficient was calculated for each LGA (see appendix 1). The calculated gini-values for all the variables further served as data input for the cluster analysis using the Soft Ware Package for Social Sciences (SPSS).

5. Results and Discussion

As noted in the proceeding section of this work, the gini-coefficient showing the performance of each LGA on the chosen indicators of development was calculated for each variable and thus served as data input for the cluster analysis (appendix 1). The result of the cluster analysis is as presented in table 1. From the cluster result, five (5) LGAs are in the highly deprived cluster, while forty six (46) others are in the deprived cluster respectively. (See table 1). Further analysis shows that out of the fifty one LGAs in the study area, five (5), representing ten percent are highly deprived with the remaining ninety percent falling in the deprived cluster.

The picture reviewed in this study is such that although, most of the LGAs in the study area appears not be fairing well in real terms, the observed pattern growth proceeds in a discernable pattern resulting in the clustering of development between and among LGAs in the Western Niger Delta. Also interesting in the analysis made above is the fact that most of states have all their LGAs falling into either the highly deprived or deprived clusters as in the case of Edo state. This revelation is worrisome especially when considered that all the states and or LGAs in the Western Niger delta are oil producing. This calls to question the extent to which resource exploitation (oil and gas) that has been going on this region correlates with actual social economic development of the area. Figure 1 is map emanating from the cluster analysis.

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Table 1: Development Clusters of LGAs of Western Niger Delta Obtained from the cluster Analysis

Cluster	Distance	Areas in the group	Remarks
1.	0.31	Ekeremor	Highly Deprived
	0.50	Sagbama	
	0.69	Ethiope-west	
	0.43	Isoko north	
	0.56	Warri south	
2.	0.33	Brass	Deprived LGAs
	0.26	Kolokoma/Opokuma	
	0.79	Nembe	
	0.91	Ogbia	
	0.02	Southern-Ijaw	
	0.28	Yenegoa	
	0.12	Aniocha North	
	0.14	Aniocha-south	
	0.58	Bomadi	
	0.22	Burutu	
	0.18	Ethiope East	
	0.33	Ika North east	
	0.73	Ika south	
	0.06	Isoko south	
	0.16	Ndokwa east	
	0.20	Ndokwa west	
	0.27	Okpe	
	0.16	Oshimilli north	
	0.62	Oshimilli south	
	0.27	patani	
	0.41	Sapele	
	0.33	Udu	
	0.66	Ughelli North	
	0.20	Ughelli south	
	0.14	Ukwuani	
	0.70	Uvwie	
	0.76	Warri North	
	0.10	Warri south west	
	0.72	Akoko Edo	
	0.29	Egor	
	0.16	Esan Central	
	0.14	Esan north east	
	0.14	Esan south east	
	0.14	Esan west	
	0.16	Etsako central	
	0.03	Etsako east	
0.14	Etsako west		
0.27	Igueben		
0.14	Ikpoba-Okha		
0.92	Oredo		
0.03	Orthionmwon		
0.55	Ovia north east		
0.55	Ovia south west		
0.16	Owan east		
0.25	Owan west		
0.55	Uhunmwode		

This paper looked at the clustering of development among LGAs in the Western Niger-Delta, Nigeria. This is against the background that that within any space economy of a developing country, State or region, there is the tendency for local areas within a relatively small region to be grossly unequal in terms of the distribution of socio-economic or development facilities available to the people. From the result of the analysis made in this work, there is variation in the distribution of selected health and educational facilities among the LGAs and states in Western Niger delta region.

Although the development pattern in the study area exhibits some form of clustering in space, most of the LGAs have indeed not fared well in development terms. The emergence of LGAs in the various clusters (highly deprived and deprived) is worrisome and potent serious development challenge in the western Niger Delta region. In many cases, the conditions of rural communities where crude oil is produced are deplorable, with severe environmental degradation, with no access to safe drinking water, electricity, and roads. Consequently, analyses of poverty and human development paint a dismal picture, among the different LGAs of the region.

The poor development outcome in the study area leads to disillusionment and frustration among the people about their increasing deprivation and deep-rooted mistrust among communities, culminating in unprecedented restiveness that at times ends up in communal violence. The high level of inequality, occasioned by long years of neglect may correlate and in fact precipitate conflict and conflict mentality, especially among youths who feel they are condemned to a future without hope, and see conflict as a strategy to escape deprivation. Persistent conflict, while in part a response to poor human development, has also entrenched it, serving as a consistent drag on the region's economic performance and expectations for advancement. The paper recommends for conscious but deliberate sub regional effort aimed at developing the Western Niger Delta area of south-south, Nigeria. To achieve this requires strategic regional cooperation among the states in the region and effective citizens' participation in the initiation and implementation of regional development policies.

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Appendix 1: Calculated Gini-coefficient for LGAs in the South-South Region, Nigeria (Data input for Cluster Analysis)

LGA	Gini-coefficient (Aggregate)	LGA	Gini-coefficient (Aggregate)	LGA	Gini-coefficient (Aggregate)	LGA	Gini-coefficient (Aggregate value)
Aniocha North	1.36	Oshimili South	1.59	Esan North East	0.51	Uhunmwode	0.82
Aniocha South	0.91	Patani	0.53	Esan south east	0.71	Brass	0.63
Bomadi	0.78	Sapele	2.47	Esan west	0.53	Ekeremor	5.18
Burutu	1.89	Udu	0.99	Etsako central	0.53	Opokuma	5.36
Ethiope East	0.85	Ughellii North	1.37	Etsoko east	0.53	Nembe	2.25
Ethiope west	1.24	Ughelli South	1.25	Etsako west	0.94	Ogbia	4.84
Ika North east	1.62	Ukwuani	1.01	Igueben	1.02	Sabama	4.68
Ika south	2.11	Uvwie	1.66	Ikpoba Okha	0.20	Southern Ijaw	3.62
Isoko North	1.09	Warri North	1.57	Oredo	1.95	Yenegoa	6.18
Isoko south	1.60	Warri South	5.30	Orhionmwon	12.92		
Ndokwa East	1.67	Warri south west	1.15	Ovia north east	0.89		
Ndokwa West	1.08	Akoko Edo	2.5	Ovia south west	0.77		
Opke	1.47	Egor	4.47	Owan east	0.69		
Oshimili North	0.86	Esan Central	0.52	Owan west	0.47		

