



## Application of Growth Pole Strategy to Improve Rural Quality of Life in Ogu/Bolo Local Government Area, Rivers State, Nigeria

<sup>1</sup>Eyenghe, Tari & <sup>2</sup>Samuel, Dagogo

<sup>1&2</sup>Department of Urban and Regional Planning, Rivers State University, Port Harcourt

[tari.eyenghe2@ust.edu.ng](mailto:tari.eyenghe2@ust.edu.ng); [gogosam2005@yahoo.com](mailto:gogosam2005@yahoo.com)

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### ABSTRACT

The study applied growth pole strategy to improve rural quality of life (QoL) in Ogu/Bolo LGA, Rivers State. The stated objectives were to describe the socio-economic conditions of inhabitants of the study area, identify resources and sectors that will promote the application of growth pole strategy, identify and evaluate needs of the inhabitants through Needs Assessment and sectors recommendations, and develop policy framework (15-year plan) for the application of growth pole strategy to improve rural quality of life. The study adopted Mixed-Methods Research (MMR) approach and concurrent triangulation research design. Judgmental and simple random sampling techniques were applied to determine the sample size and data collection using 10% precision level. A total of 100 respondents (household heads) were interviewed for the study. The study found that most households attained secondary/technical vocation completed, primary school completed and primary school uncompleted, are traders/businessmen, civil servants and technicians/artisans earning N18,001-N30,000, less than N18,000 and N30,001–N60,000. The study identified 6 sectors (land development and administration, transportation, infrastructure and services, environment, community development, and economy and commerce) and 26 sub-sectors as priority areas to employ growth pole strategy to improve rural QoL in the LGA. The study proposed 1 growth centre and 2 growth districts for concentration and diffusion of growth and development to other peripheral settlements with governments, private sector, international donor agencies, communities and individuals as stakeholders to implement the proposed policy framework. The study further recommended, regional planning studies should be a regular activity in the LGA to identify, harness resources and prioritise development needs, the policy and development framework proposed should be followed to articulate both human and natural resources and other capitals, proper utilisation, equitable redistribution and management of resources to reduce inequality gaps, balance growth and develop, and promote partnership between the public and private sectors and international development agencies in the LGA for rural planning and development.

**Keywords:** Growth Pole Strategy, Rural Quality of Life, Ogu/Bolo LGA

### Introduction

Rural societies are experiencing systematic neglect by government and large population of the globe as migration trends are favouring to urban societies in recent times. Currently, the global rural population stand at 3.4 billion in 2021 (Macrotrend, 2023a). Though, this experience is happening more in the global south of South Asia, East Asia & Pacific and sub-Saharan Africa accounting for 2.8 billion of these population as rural inhabitants are moving to urban areas (Macrotrend, 2023a). Nigeria is not left out of this trend as she is having the highest rural population in Africa continent accounting for 100.84 million (47.25%) inhabitants in 2021 (Macrotrends, 2023b) and this trend is expected to continue to favour urban areas in Nigeria as it projected by 2050, 189 million populations will live in urban areas in the country (United Nations Department of Economic and Social Affairs (UN-DESA), 2022).

Rural areas in developing countries are blessed with abundant natural and human resources to develop and compete with urban areas but the reverse is the case prompting the rural-urban migration processes (United Nations Environment Programme (UNEP), 2022). Africa continent is blessed with gold, chromium, platinum, iron ore, coal, limestone, tin, lead, zinc, crude oil and natural gas, forests with exotic flora and fauna and diverse marine ecosystems and aquatic lives which are deposited in rural environment and account for 30-50 percent of global wealth and Nigeria environment is not exempted from these abundant resources (UNEP, 2022; FGN, 2023). With these enormous resources, rural areas in Nigeria are still plagued with underdevelopment, poverty and unsustainable in outlook affecting the quality of life (QoL) of the rural inhabitants. The case of these scenarios are observed in Rivers State as most of the rural areas orchestrated by underdevelopment and misuse of available resources thereby exhibiting poverty and poor QoL amongst the rural population. QoL as a concept is defined as the summation of the living conditions of individuals and societies considering the positive and negative conditions in relation to their environment (Eyenghe, 2020; Barcaccia, 2012).

Therefore, in the planning and development of rural areas it is imperative to understand their peculiarity as they are dynamic and complex in nature and socio-economic elements. Seeing Rivers State as a region and Ogu/Bolo LGA as a sub-region for planning and development purpose require conscious and deliberate action taken by governments and its development agencies in collaboration with donor agencies, communities, private sector and it

inhabitants for their planning and development. It is a processes that engineers a well-structured and articulated development framework to balance the existing inequality that is observed in the various levels and sectors within a region and between regions in a geographical space such as Rivers State and Ogu/Bolo LGA in particular. The application of growth pole strategy as a fundamental regional planning strategy in Ogu/Bolo LGA will aid to addressing inequality and balancing in organising population, allocation and redistribution of social and economic activities and resources in order to achieve sustainable development and growth in the LGA.

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### Statement of the Problem

Regions if not properly planned and managed are prone to unsustainability in term of development and growth. Ogu/Bolo LGA which is one of the regions in Rivers State is strategically positioned and natural blessed with enormous resources within her boundaries to achieve sustainable development as a region. Ogu/Bolo LGA is enriched with both natural and human resources that is expected to boost its socio-economic growth and positive environmental development. The LGA is blessed with considerably a large population that are equipped with good educational qualification, vocation and local craft skills and accompanied with large deposits of natural resources including oil and gas, and seaport infrastructure and facilities. Nevertheless, with these enormous potentials found in Ogu/Bolo LGA, the region is still plagued with socio-economic and environmental challenges including inadequate public infrastructure and services such as access roads, healthcare and educational facilities, poor public water supply and sanitation problems, poor electricity supply; high unemployment rate especially among the able workforce; environmental degradation from oil and gas pollution, poor waste management and erosion and flooding problems; and cultural attenuation. These conditions are caused by poor planning and management of the region resources occasioned by government and other development actors inability to plan and manage to promote socio-economic growth and development in the region. This has cause disparity in the region resulting to poor rural growth and development, increase in inequality within and between settlements in the region and reduced QoL among the inhabitants of the LGA. These inequality and imbalances require assessment for the application of a sustainable strategy to improve the QoL in rural societies such as Ogu/Bolo LGA, thereby achieving sustainable development and growth.

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### Aim and Objectives of the Study

The aim of the study is to apply growth pole strategy to improve rural quality of life in Ogu/Bolo LGA, Rivers State.

The specific objectives of the study are to:

- i. Describe the socio-economic conditions of inhabitants of the study area;
- ii. Identify resources and sectors that that will promote the application of growth pole strategy in the study area;
- iii. Identify and evaluate needs of the inhabitants through Needs Assessment and sectors recommendations of the study area; and
- iv. Develop policy framework (15-year plan) for the application of growth pole strategy to improve rural quality of life in the study area.

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### Scope of the Study

The geographical scope of the study is Ogu/Bolo LGA in Rivers State. The content scope is describing the socio-economic conditions of inhabitants of the study area, identifying resources and sectors to promote the application of growth pole strategy in the study area, identifying and evaluating needs of the inhabitants through Needs Assessment and sectors recommendations, and developing policy framework (15-year plan) for the application of growth pole strategy to improve rural quality of life in the study area.

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### Literature Review

#### Growth Pole Theory and it Implications to Regional Development

The theory of Growth Pole was introduced by a French economist François Perroux in 1955 as a strategy for regional development (Sule, 2000, Lasuen, 1969). According to Sule (2000) and Lasuen (1969) Perroux based his notion that economic development occurs in "abstract space" consisting of centres, poles or foci to which centripetal forces are attracted and from which centrifugal forces emanate. Each centre being a centre of attraction and repulsion has its proper field which is set in the field of other centres. Perroux concern was the phenomenon of economic development and the structural change that followed it. The introduction of the concept of growth pole as a tool to explore the process by which economic activities, i.e. firms and industries appear, grow, stagnate and sometimes disappear becomes an economic growth process which involves a succession of dynamic poles through time (Jovanovic, 2003).

Perroux envisaged the concentration of growth in selected centres where propulsive industries are established. Such growth poles, it is assumed would automatically radiate the effective of growth impulses in the surrounding regions for generating the "spread effects" in its economic space. In other words, growth centres are seen as areas in which development is concentrated and from which development spread to surrounding regions or communities. The growth pole theory stresses the importance of concentration of resources to certain key locations rather than dispersing the same to all regions. Areas with secondary and tertiary sectors development potentials are chosen as growth centres for concentrated developmental efforts. These centres generate growth which spread to surrounding regions.

The features of a leading propulsive industry are technologically highly advanced and have expert management; demand for its product has high income elasticity and has marked local multiplier effects. Such industries exert a considerable influence on their environment through inter-industry linkages which are of two types i.e. forward linkage and backward linkage (ten Raa, 2020). These inter-industry linkages play an important role in the development of growth centre theory as Perroux stated that the development does not appear everywhere and all at once: it appears in points or development poles with variable intensities and spreads along diverse channels and has varying terminal effects for the whole of the economy (Ehinmowo & Eludoyin, 2013).

Scholars identified five key factors influencing growth at growth centres. Firstly, there should be a proven economic base, which can sustain growth through exploitation of local natural resources; raw materials like minerals whose exploitation might trigger a chain reaction as more economic activities move in to take advantage of the natural resource base (Manyanhaire, Mhishi, Sivotwa & Sithole, 2009). This gives space to a second characteristic which is the existence of high potential for the development of substantial forward and backward linkages with the surrounding hinterlands. The third factor concerns the availability of adequate resources, both physical and human to sustain the growth pole. Fourthly, these centres have the potential to facilitate the process of industrial decentralisation by providing alternative but viable investment opportunities. Lastly, they are established in places where there is already some potential for economic growth and the role of government being to stimulate and support this potential until the process of economic growth becomes sustainable and equitable (Manyanhaire *et al.*, 2009).

The growth pole theory was very popular in the 1950s and 1960s because of its usage in regional politics of many countries such as France, Italy and Czech. The propulsive industries included automotive, steel, chemistry and tourism industries with the location of new manufacturing facilities being directed to the developing regions (Blazek & Uhlir, 2002; Ondrej, 2015). However, the result of its application fell short of expectations because according to (Blazek, Csank, Maceskova, Sykorova, & Zizalova, 2008) it led to:

- i. Failure to differentiate between natural and artificial growth pole or between a spontaneously created centre and an attempt to affect the centre from the outside;
- ii. Failure of the implementation of the concept in very different contexts - these being
- iii. Neglected regions;
- iv. Cities to moderate the process of suburbanisation and achieving the modification of urban structure;
- v. Underestimation of the critical amount of initial investment to create new growth centre; and
- vi. Insufficient analysis of the newly founded facility of the propulsive industry.

The assumption of growth poles does not guarantee instant economic growth which happen in the regions without growth poles. This means that the presence of growth poles is not essential for economic growth but the formulation and implementation of development agenda aimed to boost broad-based socio-economic growth to reduce inequality and poverty in regions (World Bank, 2013). The regional planning perspectives advances Perroux's definition of growth point through viewing the growth centre concept as a strategy to reduce regional inequalities between core regions and their peripheries. The growth starts from a point or pole and trickled down to other parts (hinterlands) of the region which are seen as peripheral settlements exploring the forward and backward linkages mechanism (Singh, 2022). Growth centre serves as pole that service other less developed areas because of its enormous potentials supported by public and private sector investments. Gomart (2019) and Christofalis and Papadaskalopoulos (2011) further illustrates that the development process of growth centre theory is characterised by two attendant forces but opposite spatial tendencies:

- i. Concentration which is a result of centripetal forces which encourages growth of centres or pole, and
- ii. Dispersion which is a result of centrifugal forces which encourages growth to disperse from poles and diffuse into the hinterlands.

The combination of these forces demonstrate the functionality of growth pole theory from assumption to practical process through implementation of development proposals and actions for social and economic growth and sustainability of regions especially the core and peripheral settlements found within the regions.

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## Methodology

Sequentially, to obtain information and data to achieve the aim and objectives of the study, the study employed a Mixed-Methods Research (MMR) approach and concurrent triangulation research design to describe and apply growth pole strategy in improvement of rural QoL in Ogu/Bolo LGA in Rivers State (Creswell & Plano Clark, 2011; McCombes, 2022). The study also, employed judgmental and simple random sampling techniques for data collection. Taro Yamane formula with a 10% level of precision was employed to determine the size of the selected settlements (communities) for the study which one hundred (100) respondents were determined and interviewed (see Table 1). A total of eleven (11) settlements were identified in the study area. Judgmentally, five (5) settlements were selected namely: Ogu, Bolo, Iwokiri, Wakama and Ikpokiri settlements for the study which the prominent settlements in Ogu/Bolo LGA representing 45% of settlements in the LGA. Therefore, to determine the sample size, the population of the settlements were projected to the study year (2022) using 1991 population census results with 3.2% growth rate (National Population Commission (NPC), 1991; NPC 2018). To achieve the sample size, an average of five (5) persons per household was used to determine the number of households in the selected settlements (National Bureau of Statistics (NBS), 2016). Hence, Taro Yamane formula was used and proportionately distribute the selected households across the settlements selected for study. Simple random technique was employed to select respondents (household heads) that were interviewed. Also, physical

observations and photographs were used to characterised the socio-economic conditions and rural QoL lived by the inhabitants in the study area. Furthermore, information was collected from key informants including Ogu/Bolo LG Council, Ogu/Bolo Council of Chiefs, Community Development Committees (CDCs), Women and Youths Organisations about the study area.

**Table 1: Sample Size Determination**

Settlements	1991 Population	2022 Projected Population (3.2% Growth Rate)	No. of Households (5 persons per HH)	No. of Sampled Households
Ogu	22,559	60,007	12,001	59
Bolo	10,858	28,882	5,776	28
Iwokiri	1,781	4,738	948	5
Wakama	1,483	3,945	789	3
Ikpokiri	1,706	4,538	908	5
<b>Total</b>	<b>38,387</b>	<b>102,110</b>	<b>20,422</b>	<b>100</b>

Source: NPC, 1991; NPC, 2018; NBS, 2016; Researchers' Computation, 2022

## Results and Discussion

### The Socio-economic Conditions of Inhabitants of the Study Area

Table 2 shows the educational level of respondents in the study area. From the table as indicated, the modal educational status attained by the respondents was secondary/technical vocation completed accounted for 28%, followed by those that completed their primary school completed and primary school uncompleted accounted for 21% and 15%, respectively. Other educational status attained as indicated by the respondents were secondary/technical vocation uncompleted, tertiary institution completed, tertiary institution uncompleted and no formal education represented by 11%, 11%, 10% and 4%, respectively. The table showed that 54% of the respondents' household have primary and secondary education in the LGA.

Table 3 shows the occupational status of respondents' household members in the study area. The table showed that 23% of the household members were traders/businessmen which is the modal occupational status, closely followed by those that were civil servants accounted for 16.4% while 14% of the household members were technicians/artisans. Other occupational status of the household members as indicated in the table were teachers, company workers, fishermen, farmers and retired accounted for 11%, 9.1%, 9%, 6% and 3%, respectively. Some occupation status of household members were military/para-military personnel, engineers, medical personnel, local manufacturers, religious leaders and contractors represented by 2.4%, 2%, 1.4%, 0.9%, 0.4% and 0.4% while 2% of the household members did not specified their occupational status. This results indicated that the most occupational status of respondents' household members were traders/businessmen, civil servants and technicians/artisans accounted for more than 50% of the distribution.

Table 4 shows the monthly income of respondents in the study area. From the table as indicated, the modal monthly income bracket of the respondents was N18,001-N30,000 accounted for 37%, followed by 27% those who earn less than N18,000 and N30,001-N60,000 represented by 27% and 18%, respectively. Other respondents' monthly income earned N60,001-N90,000, N90,001-N120,000, N120,001-N150,000, N150,001-N180, 000, N180,000-N210,000 and N240,001+ accounted for 11%, 3% and 1% each, respectively.

**Table 2: Educational Level of Household Members**

Educational Status	Male		Female		Aggregate	
	No.	%	No.	%	No.	%
No formal education	4	2	14	6	18	4
Primary school completed	45	20	47	21	92	21
Primary school uncompleted	39	18	27	12	66	15
Secondary/technical vocation completed	70	32	55	24	125	28
Secondary/technical vocation uncompleted	20	9	29	13	49	11
Tertiary institution completed	24	11	26	11	50	11
Tertiary institution uncompleted	17	8	29	13	46	10
Not ascertained	0	0	0	0	0	0

<b>Total</b>	<b>219</b>	<b>100</b>	<b>227</b>	<b>100</b>	<b>446</b>	<b>100</b>
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Source: Researchers' Field Survey, 2022

**Table 3: Occupational Status of Respondents Household Members**

Occupational Status of Household Members	Male		Female		Aggregate	
	No.	%	No.	%	No.	%
Civil servant	17	8.2	17	8.2	34	16.4
Company worker	13	6.2	6	2.9	19	9.1
Technician/Artisan	19	9.1	9	4.3	28	14
Farmer	4	2	8	4	12	6
Fisherman	10	5	8	4	18	9
Engineer	2	1	2	1	4	2
Teacher	9	4.3	13	6.2	22	11
Religious leader	1	0.4	0	0	0	0.4
Medical personnel	2	1	1	0.4	3	1.4
Legal personnel	0	0	0	0	0	0
Politician	1	0.4	0	0	0	0.4
Military/Para-military personnel	3	1.4	2	1	5	2.4
Contractor	1	0.4	0	0	1	0.4
Trader/Businessman	16	7.7	31	15	47	23
Local Manufacturer	1	0.4	1	0.4	2	0.9
Retired	3	1.5	3	1.5	6	3
Others (specify)	2	1	2	1	4	2
<b>Total</b>	<b>104</b>	<b>50.2</b>	<b>103</b>	<b>49.8</b>	<b>207</b>	<b>100</b>

Source: Researchers' Field Survey, 2022

**Table 4: Monthly Income (Naira)**

Monthly Income (Naira)	No.	%
Less than N18,000	27	27
N18,001–N30,000	37	37
N30,001–N60,000	18	18
N60,001–N90,000	11	11
N90,001–N120,000	3	3
N120,001–N150,000	1	1
N150,001–N180,000	1	1
N180,001–N210,000	1	1
N210,001–N240,000	0	0
N240,001+	1	1
<b>Total</b>	<b>100</b>	<b>100</b>

Source: Researchers' Field Survey, 2022

### Identified Sectors and Resources to Promote Application of Growth Pole Strategy in the Study Area

Table 5 presents the identified sectors and resources to promote the application of growth pole strategy in the study area. In table 5, 6 sectors were identified that will promote the application of the strategy including land development and administration, transportation, infrastructure and services, environment, community development, and economy and commerce. There are also 26 sub-sectors generated from the main sectors identified that will be applied using the growth pole strategy for promotion of rural QoL in the study area. These sub-sectors are settlement plan, new town development, expansion of existing settlement, housing, land, transportation, water transportation, air transportation, education, healthcare, water supply, electricity supply, sanitation, telecommunication and ICT, recreation and open spaces. Other sub-sectors are erosion control, pollution control, sewage management refuse management, flood management, forest conservation and preservation, traditional institution, women development, youth development, security, industry and trade.

The sectors resources identified are land spaces, reclaimed lands, land (roads) and navigable rivers and creeks, harbour and jetties for water transport including various means and modes, skill acquisition centre, primary and secondary schools, water supply reservoirs, electricity stations lines, telecommunication masts, playgrounds and community centres, shore protection lines, environmental laws and regulations, forests reserves (mangroves), markets and means of connectivity. All these identified sectors, sub-sectors and sectors resources are fused together for planning and management purposes of the study area (see Table 5). These sectors, sub-sectors and sectors resources are expected to be applied using growth pole principles of centrifugal and centripetal forces to stimulate socio-economic growth and development in the study area considering the available resources which are natural, man-made and human.

**Table 5: Identified Sectors, Sub-sectors and Sectors Resources of the Study Area**

S/No.	Sectors and Sub-sectors	Sectors Resources
<b>1</b>	<b>Land Development and Administration</b>	
a.	Settlement plan	Availability of land space
b.	New town development	Availability of land space
c.	Expansion of existing settlement	Some settlements have reclaimed land for expansion
d.	Housing	Availability of land for development
<b>2</b>	<b>Transportation</b>	
a.	Land transportation	Availability of roads and various means and modes of land transport such as tricycles, motorcycles and vehicles
b.	Water transportation	Availability of navigable rivers and creeks, harbour and jetties for vessels, out-board engine boats and canoes
<b>3</b>	<b>Infrastructure and Services</b>	
a.	Education	
	i. Skill acquisition centre	Availability of a skill acquisition centre
	ii. Primary school	Availability of several primary schools
	iii. Secondary school	Availability of several secondary schools
b.	Healthcare	
	i. Hospital	Availability of land space
	ii. Health centre	Availability of land space
	iii. Clinic	Availability of land space
c.	Water supply	Availability of water supply reservoirs
d.	Electricity supply	Availability of electricity stations and lines
e.	Sanitation	Not available
f.	Telecommunication and ICT	Availability of telecommunication masts

g.	Recreation and Open Spaces		
	i.	Community playground	Availability of land
	ii.	Sports complex	Availability of land space
	iii.	Children playground	Availability of land space
	iv.	Compound playground	Availability of land space
	v.	Community open space	Availability of land space
4	<b>Environment</b>		
a.	Erosion control	Available	
b.	Pollution control	There are existing laws and regulations	
c.	Sewage management	Availability of land space	
d.	Refuse management	Availability of land space	
e.	Flood management	Availability of land space	
f.	Forest conservation and preservation	Availability of ancient forest	
5	<b>Community Development</b>		
a.	Traditional institution	Available	
b.	Women development	Available land space	
c.	Youth development	Availability of land space	
d.	Security	Available	
6	<b>Economy and Commerce</b>		
a.	Industry	Availability of land for industrial area development	
b.	Trade	Availability of land for development of markets and means of connectivity for movement of goods and services	

Source: Researchers' Field Survey, 2022

### Identified and Evaluated Needs of the Inhabitants through Needs Assessment and Sectors Recommendations for the Study Area

#### Sectors Needs Assessment and Evaluation

Table 6 shows the various identified sectors and sub-sectors needs for assessment of the study area. Thus, from table 6 the identified and evaluated needs according to the various sectors and sub-sectors needs assessment showed that in land development and administration sector their needs were village plans, development of a new town, expansion of existing settlements, provide adequate and affordable. The transportation sector needs are provision of more access roads, development of more jetties and desilting of waterways. In infrastructure and services sector from the identified and evaluated needs are skill acquisition centre, maintenance of existing primary and secondary schools, provision of tertiary institution, maintenance of existing general hospital, health centres and provision of more healthcare facilities (health centres and clinics). Also, in the infrastructure and services sector there is need to maintain, upgrade and provide water supply facilities, networks and systems, electricity supply facilities (stations and transformers) and networks (grid lines), sanitation systems, and telecommunication masts and maintenance of existing playgrounds and sports facilities.

In the environmental sector as outlined in table 6, provision of public health officers and environmentalists for regular check and maintenance of erosion and pollution control issues, sewage management system, authorised dumpsites, flood management systems (drainages), and establishment of forest conservation and preservation agencies and committees in the study area. Furthermore, in community development sector, strengthen traditional institution, empowerment of women and youths in the settlements and LGA collaborating with security agencies to strengthen security architecture. In the sector of economy and commerce, establishment of a propellant industry (taking cognisance of the resources of the LGA), provision and maintenance of shopping facilities and local markets.

#### Sectors Recommendations from Needs Assessment

The sectors recommendations according table 7 are preparation of village plan for settlements, preparation of new town, reclaim marshy land for housing development, maintenance and provision of existing and new land and water transport systems including infrastructures and means, maintenance and provision of skill acquisition centres, primary and secondary schools and provision of tertiary institution. Upgrading, maintenance and provision of

healthcare facilities such as general hospital, primary health centres and clinics, upgrading and maintenance of water supply and electricity facilities, systems and networks, telecommunication masts, community, compound and children playgrounds, and enforcement of public health and sanitation laws and regulations. Other sectors recommendations from needs assessment and evaluation are maintenance of shore protection of settlements, enforcement of environmental laws and regulations, provision and maintenance of existing dumpsites, drainage systems, enforcement on forestry conservation and preservation by agencies and committees' setup and build strong synergy between federal, state and local agencies.

From community development and economy and commerce sectors recommendations, table 4 indicated that government should support to the traditional institutions to fostering peace and unity in the LGA, women education should be encouraged and Small and Medium-sized Enterprises (SME's) support system should develop, provision of skill and entrepreneurial centres for the youth development to fit into local economy demands, and security personnel should be posted, increase collaboration and security architecture in the LGA. As part of the sectors recommendations, the provision of fishing industry such as deep sea, aqua-culture and processing), logistics, and equipments firms can invest to encourage commercial fishing, and further provide, upgrade and maintain existing shopping facilities and local markets to meet supply and demand of the local economy and surrounding LGAs markets (see Table 7). The combination of sector needs and recommendations shall inform in the articulation of development of planning framework for the planning and management of resources within the LGA considering all potentials and challenges and how the growth pole strategy will promote sustainable development from these potentials and challenges being recognised in the study area.

**Table 7: Sectors and Sectors Needs Assessment and Recommendations of the Study Area**

S/No.	Sectors and Sub-sectors	Sub-sector Needs	Sectors Recommendations
<b>1</b>	<b>Land Development and Administration</b>		
a.	Settlement plan	Need a village plan	Prepare a village plan for settlements
b.	New town development	Develop a new town for the LGA	Prepare a new town that will attract investments
c.	Expansion of existing settlement	Expand existing settlement that have reclaimed land	Prepare a layout plan for expansion of settlements
d.	Housing	Need adequate and affordable housing	Reclaim marshy land for public housing development to meet sustainable housing
<b>2</b>	<b>Transportation</b>		
a.	Land transportation	Develop more access roads for motorcycles, vehicles and provision for tricycles	Maintenance of the existing land transport system (infrastructure – motor parks, roads and logistics) and provision of various means of transport
b.	Water transportation	Desilting of waterways and development of jetties for enhancement of ferryboats travel	Maintenance of the existing water transport system (infrastructure – jetties, desilting of waterways and logistics) and provision of ferryboats
<b>3</b>	<b>Infrastructure and Services</b>		
a.	Education		
	i. Skill acquisition centre	Need another skill acquisition centre	Maintenance and provision of another skill acquisition centre
	ii. Primary school	Needs to be maintained	Maintenance of the existing primary schools
	iii. Secondary school	Needs to be maintained	Maintenance of the existing secondary schools
	iv. Tertiary school	Need of a tertiary institution	Provision of a tertiary institution



b.	Healthcare		
	i. Hospital	Maintenance of existing general hospital	Upgrade and maintenance of existing hospital
	ii. Health centre	Maintenance and need more health centres	Provision of more, upgrade and maintenance of the existing health centres
	iii. Clinic	Need more clinics to compliment public healthcare facilities	Provision of more clinic to support public healthcare facilities and services
c.	Water supply	Maintenance of the existing water supply facilities, networks and systems	Upgrade and maintenance of the existing water supply sources, facilities and networks
d.	Electricity supply	Need to maintain the electricity supply facilities and networks	Upgrade and maintenance of the existing electricity supply facilities and networks
e.	Sanitation	Need to introduce good sanitation systems	Enforcement of public health and sanitation laws and regulations to protect the sanitary systems in the communities
f.	Telecommunication and ICT	Available and needs upgrade	Upgrading and maintenance of the existing masts
g.	Recreation and Open Spaces		
	i. Community playground	Need a standard playground for the community	Upgrade and maintenance of the existing community playgrounds
	ii. Sports complex	Needs to maintain the existing playground	Upgrade and maintenance of the existing sport complex
	iii. Children playground	Needs to maintain the existing children playgrounds	Upgrade and maintenance of the existing children playgrounds in communities
	iv. Compound playground	Needs to maintain the existing compound playgrounds	Upgrade and maintenance of the existing compound playgrounds
	v. Community open space	Needs to maintain the existing playground	Upgrade and maintenance of the existing community open spaces
<b>4</b>	<b>Environment</b>		
a.	Erosion control	Provide environmental and public health officers to check erosion sources	Maintenance of the existing shore protection and provision of more.
b.	Pollution control	Provide environmental and public health officers to check pollution sources	Enforce environmental laws and regulations
c.	Sewage management	Provide environmental public health officers to check sewage management system	Enforce environmental laws and regulations
d.	Refuse management	Need to maintain the existing dumpsite	Maintenance of the existing and provision of more dumpsites

e.	Flood management	Need to provide more and maintain the existing drainage system	Provision of more where necessary and upgrading the existing drainage system
f	Forest conservation and preservation	Establish forest conservation and preservation agencies and committees that will help in facilitating this processes	There should be an enforcement on forestry conservation and preservation by agencies and committees' setup and build on the system to form a strong synergy between federal, state and local agencies
5	<b>Community Development</b>		
a.	Traditional institution	Availability of traditional institutions	There should be government support to the traditional institutions to play their traditional roles in fostering peace and unity in the LGA
b	Women development	Provision of empowerment support for the women	Women should be encouraged with education and Small and Medium-sized Enterprises (SME's)
c	Youth development	Provision of empowerment aids for the youths	Provision of skills and entrepreneurial centres for the youth
d	Security	Available but should be strengthened and increase collaboration	More security personnel should be posted to the area and increase collaboration
6	<b>Economy and Commerce</b>		
a.	Industry	Need to establishment of a propellant industry	Establishment of fishing industry (deep sea, aqua-culture, processing), logistics, and equipments to encourage commercial fishing activities
b	Trade	Provision and maintenance of shopping facilities and local markets	Provision of more, upgrading and maintenance of existing shopping facilities and local markets

Source: Researchers' Field Survey, 2022

#### Developed Policy Framework for the Application of Growth Pole Strategy to Improve Rural QoL in the Study Area

Table 8 presents the settlements, their current and proposed hierarchies and proposed centre hierarchy for the development of the study area. Considering the settlements resources including population, natural resources and infrastructure and services, Ogu was ranked the only 1<sup>st</sup> order settlement in hierarchy being the LG headquarters, Bolo was ranked 2<sup>nd</sup> Order settlement, Wakama, Ikpokiri, and Ele settlements were ranked 3<sup>rd</sup> Order settlements in hierarchy. The other settlements Iwokiri and Owuogono were ranked 4<sup>th</sup> Order settlements and Oraberekiri, Mgbikiri, Chiri-Kiri and Semenipikiri were ranked 5<sup>th</sup> Order settlements. In the application growth pole strategy, the settlements were re-ranked in hierarchies to explore their potentials address inequality and imbalances within the LGA to redistribute resources and improve rural QoL. The study proposed that Ogu settlement should maintain her hierarchy of 1<sup>st</sup> Order, Bolo and Owuogono settlements were upgraded to 2<sup>nd</sup> Order settlements while Iwokiri, Ikpokiri and Wakama, were made 3<sup>rd</sup> Order settlements. The other settlements such as Mgbikiri and Semenipikiri were upgraded to 4<sup>th</sup> Order settlements and Oraberekiri and Chiri-Kiri settlements remain as 5<sup>th</sup> Order settlements in hierarchy (see Table 8). In the settlements proposed centre hierarchies, 1 growth centre was proposed which is Ogu, while Bolo and Owuogono settlements were proposed as growth districts to hold centripetal forces (concentration of activities and dispersed) and the rest settlements were proposed as peripheral centres to receive centrifugal forces diffused (socio-economic impacts from goods and services produce) from the growth centre and growth districts (see Figure 1). These concentration and diffusion process demonstrates well-structured functional linkages within and between the settlements and area of influence (spatial coverage) in radius.

Table 8 shows the developed policy framework according to the various sectors and sub-sectors including the proposed action plans, expected outcomes, stakeholders and time frame to apply the growth pole strategy to improve rural QoL of inhabitants of the study area. As stated in table 4, the action plans for land development and administration sector are to prepare settlement plans, new town, designing of sustainable housing units, and reclamation of lands for settlements expansion. The policy framework for transportation sector are expansion and rehabilitation of existing road networks, linking of roads to coastline settlements, improvement waterways to be navigable for efficient transport, and development of jetties and purchase of water means of transport. For infrastructure and services sector the proposed policies are provision of power supply in all settlements, protection water sources from pollution, provision of water treatment plants, provision of approved refuse dump site to stop disposal on waterbodies, upgrading and maintenance of the

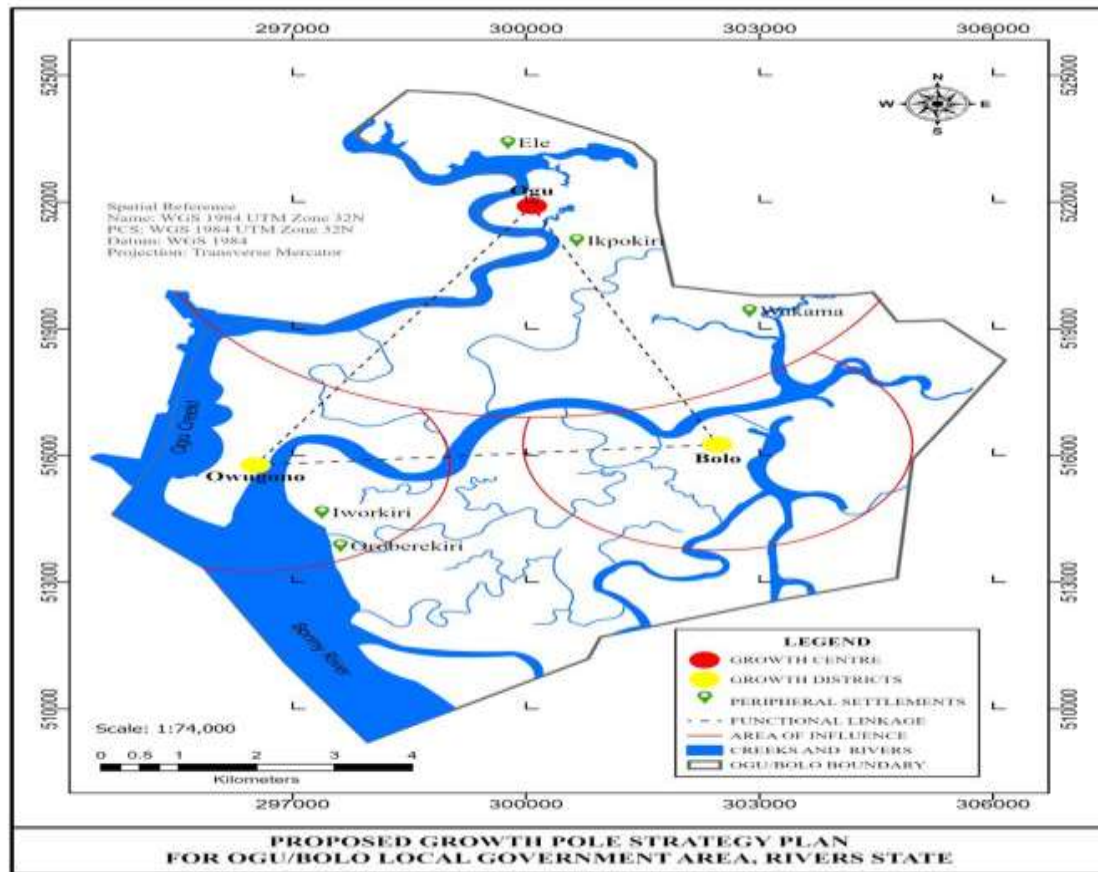
existing telecommunication masts, rehabilitation and upgrading existing primary and secondary schools, encourage private schools' development, development and rehabilitation of existing of primary and secondary health facilities, and provision of security facilities in settlements and at strategic locations in the LGA.

From table 8 showed that in environment sector the proposed policy framework for the sector are provision of drainage channels in settlements, establish environmental committee responsible for creating awareness and control in human actions, provision of shore line protection and embankment infrastructure (levees) in settlements, and provision of waste collection sites and treatment of wastes. In community development sector the proposals are promote traditional institutions collaboration in governance, involve women and youths in community development programmes and decision making process. Thus, from economy and commerce sector the study proposed the establishment of industries utilising the natural resources identified at Ikpokiri, development of tourist resorts at Owuogono and Iwokiri, establishment of agro-based industries for aquaculture, and animal husbandry at Ele and Wakama settlements, expansion of shopping facilities at Ogu and Bolo settlements, and development of other local markets in various settlements.

**Table 8: Settlements and Proposed Hierarchies for Development**

Settlements	1991 Population	2022 Population (3.2% Growth Rate)	Projected Settlement Hierarchy	Current Settlement Hierarchy	Proposed Settlement Hierarchy	Proposed Centre Hierarchy
Ogu	22,559	60,007	1 <sup>st</sup> Order	1 <sup>st</sup> Order	1 <sup>st</sup> Order	Growth centre
Bolo	10,858	28,882	2 <sup>nd</sup> Order	2 <sup>nd</sup> Order	2 <sup>nd</sup> Order	Growth district
Iwokiri	1,781	4,738	4 <sup>th</sup> Order	3 <sup>rd</sup> Order	3 <sup>rd</sup> Order	Peripheral centre
Wakama	1,483	3,945	3 <sup>rd</sup> Order	3 <sup>rd</sup> Order	3 <sup>rd</sup> Order	Peripheral centre
Ikpokiri	1,706	4,538	3 <sup>rd</sup> Order	3 <sup>rd</sup> Order	3 <sup>rd</sup> Order	Peripheral centre
Oraberekiri	647	1,721	5 <sup>th</sup> Order	5 <sup>th</sup> Order	5 <sup>th</sup> Order	Peripheral centre
Mgbikiri	1,138	3,027	5 <sup>th</sup> Order	4 <sup>th</sup> Order	4 <sup>th</sup> Order	Peripheral centre
Owuogono	1,197	3,184	4 <sup>th</sup> Order	2 <sup>nd</sup> Order	2 <sup>nd</sup> Order	Growth district
Chiri-Kiri	421	1,120	5 <sup>th</sup> Order	5 <sup>th</sup> Order	5 <sup>th</sup> Order	Peripheral centre
Semenipikiri	913	2,429	5 <sup>th</sup> Order	4 <sup>th</sup> Order	4 <sup>th</sup> Order	Peripheral centre
Ele	1,321	3,514	3 <sup>rd</sup> Order	3 <sup>rd</sup> Order	3 <sup>rd</sup> Order	Peripheral centre
<b>Total</b>	<b>44,024</b>	<b>117,105</b>				

Source: Researchers' Conceptualisation, 2022



**Figure 1: Proposed Growth Pole Strategy Plan for Ogu/Bolo LGA**

Source: Researchers’ Conceptualisation, 2022

Consequently, the expected outcomes from the proposals of the land development and administration and transportation sectors and sub-sectors are enhancement of physical, social and economic structures of the settlements, promote good living conditions of social well-being of inhabitants, increase land area for development, enhancement of connectivity of road transportation systems, promote efficient, affordable and sustainable water transport system in the LGA (see Table 5). In the infrastructure and services and environment sectors and sub-sectors the expected outcomes are promotion of businesses, local economy, and good living condition of inhabitants of the LGA, reduction of water borne diseases, illness, hygiene, public health and sanitation, and enhancement of communication and accessibility to internet service. There is also promotion of good learning environment, increase literacy rate in the LGA, promotion of quality healthcare services and administration, reduction of mortality rate and chronic illnesses, enhancing safety and security of lives and properties, reduction crime and violent activities in the LGA, control erosion activities, reduction of environmental health issues and hazards, and protection of the fragile environment, healthy and clean environment in the LGA. While community development and economy and commerce sectors and sub-sectors expected outcomes from the formulated proposals are promotion of peace, unity and stability, empowerment of women and youths to be self-reliance, boost local economy, generation of income for households and individuals, creation of employment opportunities, and increase wholesale and retail activities in the LGA (see Table 5). From the table 5, the stakeholders identified that will be involved in the implementation of the developed policy framework are government at all levels (federal, state and LGA), international donor agencies (UNEP, UN-Habitat, World Bank, AfDB, USAID, UKAID, Canada-AID, etc), private sector (investors, IOCs and NGOs), communities through their Community Development Committees (CDCs), households and individuals within the time frame of short and medium terms pending on the project through phasing programming. The application of the growth pole strategy has taken cognisance of the ingredients of sustainable development and good governance in principle in its implementation processes to achieve sustainability, participation and inclusiveness to balance socio-economic growth and development.

**Table 5: Developed Policy Framework for the Study Area**

Sectors and Sub-Sectors		Action Plans	Expected Outcomes	Stakeholders	Time Frame (15 years)
Land Development and Administration	Settlement plans	Preparation of settlement plans for all settlements in the LGA	1. Enhance the physical, social and	Governments, private sector and communities.	Short and Medium Term

			economic structures of settlements.		
	New town	1. Preparation of a New Town through expansion of Ogu Town	1. Enhance the physical, social and economic structures of settlements to promote sustainable development	Governments, private sector and communities.	
	Housing	1. Design of sustainable housing units in Ogu, Bolo, Wakama, Ele and Ikpokiri	1. Promote good living condition and social well-being of inhabitants of the LGA.	Governments and private sector.	
	Land reclamation	1.Reclamation of land for more spatial growth and expansion of fast growing settlements such as Ogu, Bolo and Ikpokiri	1. Increased land area to accommodate expected growth and development.	Governments and private sector.	
<b>Transportation</b>	Land transportation	1. Expansion and rehabilitation of road networks in and between settlements. 2.Linking all coastline settlements with roads to upland settlements.	1. Enhancement of road transportation system by improving connectivity between interrelated modes of transportation in the LGA.	Governments, private sector and CDCs	Short and Medium Term
	Water transportation	1.Improvement waterways to be navigable for efficient transport. 2. Development of jetties and purchase of water means of transport.	1. Promote efficient, affordable and sustainable water transport system in the LGA.	Governments, private sector and CDCs	
<b>Infrastructure and Services</b>	Electricity	1. Provision of power supply in all settlements of the LGA	1. Promote businesses and local economy of settlements. 2. Promote good living condition of inhabitants of the LGA.	Governments, private sector, communities, individuals and donor agencies.	Short and Medium Term
	Water	1. Protection water sources from pollution. 2. Provision of water treatment plants.	1. Reduce water borne diseases and illness 2. Promote good health and sanitation.	Governments, private sector, communities, individuals and donor agencies.	
	Sanitation	1. Provision of approved refuse dump site to stop disposal on waterbodies.	1. Promote public health, hygiene and well-being.	Governments, private sector, communities,	

				individuals and donor agencies.		
	Telecommunication/ICT	Upgrading and maintenance of the existing telecommunication masts.	1. Enhancement of communication and accessibility to internet service.	Private sector.		
	Education (primary, secondary, and vocational)	1.Rehabilitation and upgrading existing primary and secondary schools. 2. Encourage private schools development.	1. Promote good learning environment. 2. Increase literacy rate in the LGA.	Governments, private sector, communities and donor agencies.	Short and Medium Term	
	Healthcare (primary and secondary)	1. Development and rehabilitation of existing of primary and secondary health facilities.	1. Promote quality healthcare services and administration. 2. Reduce mortality rate and chronic illnesses.	Governments, private sector, communities and donor agencies.		
	Security	1. Provision of security facilities in settlements and strategic locations in the LGA.	1. Enhancing the safety and security of lives and properties. 2. Reduce crime and violent activities in the LGA.	Governments, communities and donor agencies.		
<b>Environment</b>	Erosion control	1.Provision of drainage channels in settlements	1. Enhance erosion control	Governments and communities.		Short and Medium Term
	Pollution control	1. Establish environmental committee responsible for creating awareness and control in human actions.	1. Reduces environmental, health issues and protection of the fragile environment.	Governments and communities.		
	Flood management	1.Provision of shore line protection and embankment infrastructure in settlements.	1. Reduce environmental hazards	Governments and communities.		
	Waste management (refuse and sewage)	1.Provision of waste collection sites. 2. Treatment of wastes	1. Promote healthy and clean environment	Governments, communities and households		
	<b>Community Development</b>	Traditional institution	Promote traditional institutions collaboration in governance.	1. Promote peace, unity and stability in the LGA	Government and Council of Chiefs	
	Women	Involve women in development community	1. Promote, peace, unity and stability.	Governments, private sector,		

		programmes and decision making process.	2. Empower women to be self-reliance. 3. Boost local economy.	communities and donor agencies.	
	Youth	Involve youths in development community and decision making process.	1. Promote, peace, unity and stability. 2. Empower youth to be self-reliance and face future opportunities. 3. Boost local economy.	Governments, private sector, communities and donor agencies.	
Economy and Commerce	Industry	1. Establishment of industries utilising the natural resources identified at Ikpokiri. 2. Development of tourist resort centres at Owuogono and Iwokiri settlements. 3. Establishment of agro-based industries for aquaculture, and animal husbandry at Ele and Wakama settlements	1. Generation of income for households 2. Boost local economy. 3. Create employment opportunities.	Private sector, governments and communities.	Short and Medium Term
	Trade	1. Expansion of shopping facilities at Ogu and Bolo settlements. 2. Development of other local markets in various settlements	1. Generation of income for households and individuals. 2. Boost local economy. 3. Create employment opportunities. 4. Increase wholesale and retail activities.	Private sector, governments and communities.	

Source: Researchers' Conceptualisation, 2022

## Conclusion

This study has set out few objectives; to ensure the planning and development of the Ogu/Bolo LGA follows sustainable development principles in planning, action taken and practice to improve rural QoL as a sub-region and systematic organise the development of the LGA considering the potentials and challenges identified to reduce the inequality that exist among settlements in the study area. However, to check unplanned development and growth in the regional system and environment as to improve QoL of the inhabitants through prevention over concentration of activities and people in a particular settlement, prevent overbearing burden on existing infrastructure and services, and enforcement planning and other laws and regulations. The study has attempted to the challenges of developing in Ogu/Bolo LGA using the available resources identified. The study has identified and used 6 sectors and 26 sub-sectors as priority areas to address and plan for the sustainable development and growth of the study area covering land development and administration, transportation, infrastructure and services, environment, community development, and economy and commerce. The study has identified

the needs of the LGA from the sectors and sub-sectors employing needs assessment approach, and applying growth pole strategy for planning and development of the LGA. Policy framework has been developed through proposals to achieve sustainable development in the use of resources found in the study area, the expected outcomes have projected and the stakeholders that will implement the policies and the time frame of 15-year plan period have been specified. Thus, 1 growth centre and 2 growth districts have been proposed in the LGA as settlements for concentration and diffusion of growth and development to other peripheral settlements to improve rural QoL in the LGA of study. Therefore, to achieve the aim and objectives of the study, prompt and articulated actions in priority areas identified should be promoted for the physical planning and development, address inadequacy and uneven distribution of basic infrastructure and services, and constant pollution of the environment projecting unsustainability. This can be achieved through the following recommendations.

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## Recommendations

The study suggests the following recommendations:

- i. Regional planning studies should be a regular activity in the LGA to identify and harness resources and prioritise development needs to improve the local economy, socio-economic condition and quality of life of the inhabitants of Ogu/Bolo LGA;
- ii. A policy and development framework proposed should be followed to articulate both human and natural resources and other capitals within the LGA for sustainable development;
- iii. The LGA as a priority should identify all resources within its boundaries for proper utilisation, equitable redistribution and management for sustainable development of the study area to reduce inequality gaps, balance growth and develop and efficient landuse management; and
- iv. Synergy should be enhanced to promote the partnership between the public and private sectors and international development agencies for effective and efficient collaboration to utilise resources and improve investment opportunities in the LGA.

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