

Does an Improvement in Rural Infrastructure Contribute to Alleviating Poverty in Rural Areas? Cross Sectional Evidence from Rural Akwa Ibom State, Nigeria

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Abstract: The study examines the nexus between infrastructure provision and poverty alleviation in rural communities of Akwa Ibom State, Nigeria, focusing on how the availability and ease of use of social infrastructural facilities as well as the extent to which these facilities have enhanced the wellbeing of the rural dwellers. The objective of this study was to idiographically ascertain the influence of infrastructure provision and accessibility on livelihood improvement in rural communities. Using Taro Yamane statistical technique, 400 households in 30 randomly sampled rural communities drawn from 19 out of 31 LGAs of the State were selected for oral interview using structured questionnaire while the secondary data generated from the Akwa Ibom State Statistical Year Book were used to authenticate the quality of data collected from the questionnaire survey and complement the data obtained through direct field observation of available infrastructure in the sampled settlements. The study reveals that considerable increase in poverty incidence in the rural communities is associated with poor and inadequate infrastructure provision which negatively impact living conditions across the rural communities with attendant policy implications. The study highlights the need for government at all levels in the State and Nigeria in general to undertake a strategic and long-term perspective through increase in her budgetary allocations and radical investment in key infrastructural provision in order to improve the living conditions in the rural communities and lessen poverty levels in the communities.

Key Words: Improvement, Rural Infrastructure, Alleviation, Poverty and Akwa Ibom State

I. Introduction

Infrastructure and poverty alleviation in the rural areas have been a topical issue in recent time. Although the federal and state governments have adopted various measures of meeting the basic needs of the people, the results lacked far reaching effects as the majority of the rural areas still lack adequate access to basic necessities of life and are thus trapped in infrastructural poverty. The lack of access to basic social amenities affirmed the position of Adeniran et.al, (2021) that infrastructure development in Nigeria has been wedged by national development plans and attendant development programs. Infrastructure development is the basis of a sustainable economic landscape in evolving economies because it guarantees increases in productivity, draws investments, generates jobs, and lessens poverty. Infrastructure development plays a vital role in alleviating poverty through facilitating economic growth as a growing economy will attract investment, provide jobs, and create an enabling climate for sustainable economic growth that will help reduce poverty incidences.

The role of infrastructural facilities in the inclusive economic growth and development of rural communities cannot be overemphasized. Esin (2014) had remarked that infrastructure plays a crucial role in poverty reduction, economic growth and employment generation for the rural inhabitants. In this connection, Novitasari et al. (2020) posit that infrastructure development is the basis for development activities such as socioeconomics, welfare, and prosperity. Infrastructure provisions facilitate corporate operations and could lower production costs for commercial and industrial activities. For instance, improved transportation infrastructure means better access to markets for labor and goods by saving expenses and travel time which enables the rural population to easily access employment opportunities available in cities and also market their products lucratively. According to Fagbemi et al. (2022), investment in water and sanitation infrastructure tends to improve the health conditions of the people, decreasing the incidences of diseases, improving productivity, and enhancing general well-being, thereby alleviating the levels of poverty. Arfanita et al. (2023) affirm that this kind of infrastructure is desired not only for the long run but also for sustainable poverty reduction since investments in health facilities and education contribute to rising human capital, develop better opportunities of employment, and improve the standard of living. Investing in water and sanitation infrastructure improves health conditions, reduces diseases, enhances productivity and general well-being, and reduces poverty (Fagbemi et al., 2022; Arfanita et al., 2023). Wu et al. (2024) states that infrastructure development will help boost economic growth and reduce poverty.

Oyewole and Oloko (2006) observed that adequate infrastructures can reduce the cost of production which affects productivity, output levels, and employment generation. While studies by Perkins and Liuz (2005) and Akintola (2007) revealed that where infrastructures are put in place, the level of agricultural productivity will be increased and if otherwise, citizens will vacillate particularly the rural poor, thereby making economic renewal and societal welfare to become worst and halted. It follows therefore

that a strategy to reduce abject poverty needs to incorporate policies to develop both production and welfare oriented infrastructures in order to improve poor people's productive capacity and quality of life.

The observed internal disparities in infrastructure provision in Nigeria, as in other developing countries are linked to the antecedent of development dating the colonial era. According to Onimode (1988), given Nigeria's colonial and neo-colonial historical experiences which culminated in the rural-urban inequality in the distribution of socio-economic facilities, the majority of the rural populace are trapped and sub-merged in a sub-human culture of silence, misery and isolation. Many parts of rural Nigeria are characterized by deplorable and impassable access feeder roads, epileptic and in most cases complete absence of power supply, inadequate or non-existent basic health facilities, indecent housing, inexistent educational institution and complete absence of recreational facilities, thereby compounding the development of the rural areas (Esin, 2016). This is due to growth and development in both the rural and urban space that are consequent on the availability of infrastructure that provides the essential facilities and services necessary for improved standard of living. In many parts of rural Akwa Ibom State, infrastructural facilities and services which form the central catalyst that induces population agglomeration and growth, the foundation on which development activities thrives and the vital ingredients for the development process are poorly developed.

The insufficient delivery of social infrastructures as averred by Esin (2018) in the rural areas impede the prospect for better living standards and prospects for employment and other forms of economic activities. Flowing from the foregoing, this study examines the availability and ease of use of social infrastructural facilities as well as the extent to which these facilities have enhanced the welfare and safety of the rural dwellers. In spite of the significant impact of infrastructures to effectively bridge the gap between the impoverish and the well-off in Nigeria and in opening up opportunities for enhancing economic growth, gaps abound in knowledge on the subject matter, especially on the impact of infrastructural provision on rural poverty alleviation and its possible implication on economic growth. This study is intended to address this knowledge gap.

II. Conceptual Clarification/Literature Review

Abumere (2002) defined rural infrastructure to include the system of physical, human, and institutional forms of capital which enables rural residents to better perform their production, processing, and distribution activities as well as help to improve the overall quality of life. Some of these infrastructures are roads, communication network, irrigation, storage facilities, market facilities, research and extension institutions, schools and universities which train and turn out a variety of skilled agricultural workers. Rural infrastructure can better understood as those specialized "elements" in the development process that bring about improvements in the socio-economic welfare of the rural dwellers. They are catalysts of development, and at the same time their presence can be an indicator of the level of development. On the other hand, the presence of certain types of infrastructure such as electricity may not bring about significant improvements in the life of the people unless when combined with other variables. The following can be classified as social infrastructure: health (hospitals, dispensaries, maternities, and health centers), education (all types of schools except universities), and utilities (water and electricity) (Oguzor, 2011).

Be it physical, social or institutional, several studies (Hartwig and Nguyen, 2023; Chotia and Rao; 2017; Abdullahi and Sieng; 2023; Sayvaya and Phommason, 2023; Fagbemi et al., 2022; Esin and Mbuotidem, 2018 amongst others) have established the possible impacts of infrastructure developments on the stimulation of the growth of new and existing industries and enterprises thereby boosting employment and economic growth with a spillover effect and reducing poverty. Hartwig and Nguyen (2023) assert that the growing investment in infrastructure, such as telecommunications and transportation, in developing nations is an effort to reduce poverty. Infrastructure development can stimulate industry growth, boost employment, and reduce poverty. There are several existing empirical studies to establish the impact of infrastructure development on poverty alleviation in other developing economies. These studies have recorded a substantial outcome of infrastructure development on poverty alleviation, establishing the fundamental role that infrastructure development plays in improving economic growth and decreasing poverty. A classic example is study by Chotia and Rao (2017) who established a positive effect of infrastructure development on economic growth and poverty alleviation in BRICS countries. Abdullahi and Sieng (2023) shown that infrastructure intensifies the marginal productivity of private capital and lessens production costs, which suggestively impact economic growth and improve several people's quality of life by raising the value of consumption, raising labor productivity, and creating jobs. Studies by Sayvaya and Phommason (2023) established the significant influence of road infrastructure on economic growth and enhancing poverty alleviation in rural areas in view of the observed positive relationship between road access during the rainy season and real expenditure per capita in Lao PDR. The authors revealed that investments in social infrastructure contribute significantly to growth by increasing productivity and people's quality of life. Sound

According to Fagbemi et al. (2022), improvements in transportation and water and sanitation facilities enhance access to necessary services and resources, which in turn reduces the incidence of disease, enhances health outcomes, and ultimately results in a considerable decline in poverty. Infrastructure development initiatives have the potential to generate employment possibilities, hence augmenting the need for labor force and indicating that enhanced infrastructure fosters diverse economic activities that can pull families out of poverty (Chotia and Rao, 2017). Investments in infrastructure projects in developing economies are a significant developmental plan to improve the living standards of people. Mallek et al. (2024) found that infrastructure development reduces poverty in 40 African economies, following the argument that improving SSA's infrastructure will increase the benefits of employment, education, and a healthy environment that reduces poverty. Infrastructure projects are

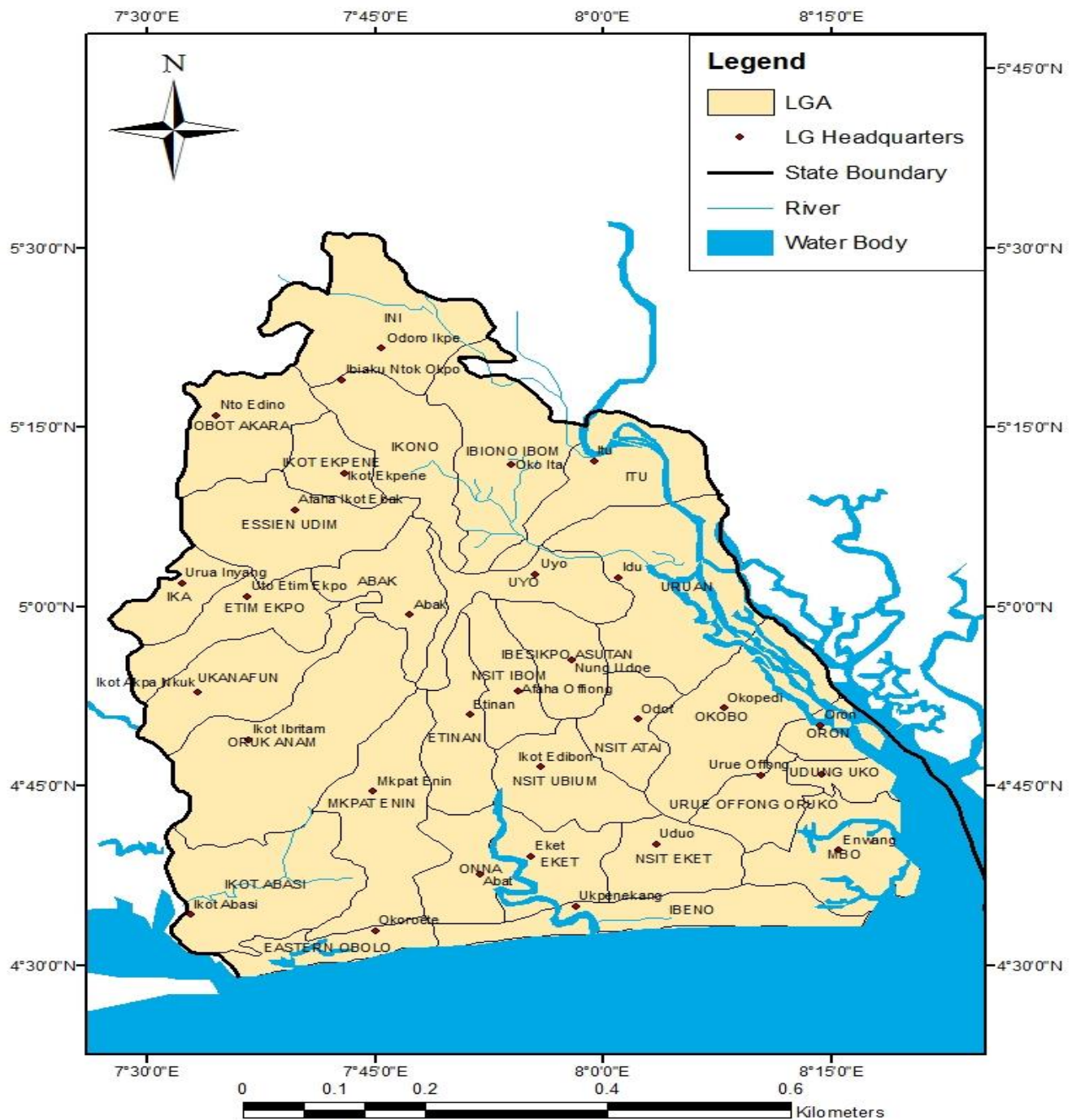


Fig. 1.2: Map of Akwa Ibom State showing the location of the LGA and their headquarters

large developmental plans that put investment into developing economies for better living standards. Wu et al. (2024) studying the relationship between infrastructure investment and multidimensional poverty among rural migrant workers in China, found that infrastructure investment will reduce poverty, and infrastructure investment in telecommunications and transport reduces poverty more significantly. Zhang et al. (2023) revealed that infrastructure projects in China significantly reduce local poverty by improving living standards and employment stability, particularly in self-dependent recipients and recipients and rural areas. Found that infrastructure development increased the number of health facilities, which has a beneficial impact on rural poverty. Fagbemi et al. (2022) established that sustainable infrastructure development is related to significant poverty reduction in Nigeria, but further observation showed a reciprocal causal relationship between infrastructure development and poverty reduction. This is an indication that reducing poverty may lead to improved public sector performance and more effective and efficient use of resources for the development of large-scale infrastructure.

III. Materials and Methods

Study Area

Akwa Ibom State is located at the south-east corner of Nigeria between latitudes 4° 3' and 5° 32' North of the equator; and longitudes 7° 25' and 8° 30' east of the Greenwich Meridian. It is bounded on the north by Abia and Cross River States. In the south, the State is bordered by the Atlantic Ocean and on the south-west and west by Rivers and Abia States respectively. Figure 1 is the map of Akwa Ibom State (the study area).

Akwa Ibom State has a landmass of 8,412sq kilometres (Akwa Ibom State, 1989). The State, which was created on 23rd September, 1987 from the former Cross River State, Nigeria, is administratively divided into 31 Local Government Areas (LGAs) including Uyo, the State capital city. By this division, the State has 31 urban settlements as headquarters of the LGAs with Uyo, Eket, Ikot Ekpene, Abak, Etinan, Itu, Ikot Abasi and Oron being the oldest and more developed urban settlements (exception of Itu).

The State experiences a uniformly high temperature all year round with a mean monthly figure of 26°C. In coastal areas and areas near major water bodies, the diurnal temperatures are drastically moderated by the influence of sea breezes and copious rainfall (Usoro and Akpan 2010). These hot and wet tropical climate conditions encourage the development of luxuriant vegetation of the tropical rain forest type and farming activities. These may have in turn favoured sedentary living and settlement development in the area.

The relief of Akwa Ibom State is generally flat (Usoro and Akpan, 2010). The monotonous flat surface is however broken in the north by undulating topography in Itu, Ini and Ibiono Ibom Local Government Areas. Here, the undulations are as high as 200ft (60m) above sea level while some coastal areas under the influence of the Atlantic Ocean, Cross River, Qua Iboe and Imo Rivers have valleys, marches and swamps (Usoro and Akpan, 2010). The State is drained majorly by Cross River, Qua Iboe and Imo Rivers. With an endowed coastline of 129km out of Nigeria's 800km coastline, the State has many beaches yearning for development (Usoro and Akpan, 2010).

Akwa Ibom State is made up of Ibibio, Annang and Oron speaking people. Noah (1980) and Otoabasi (2004) noted that these three groups that make up modern Akwa Ibom State are culturally one and understand Ibibio language inspite of the dialectical differences found among them. Besides the three major ethnic groups, Akwa Ibom State has minor ethnic groups such as Eket, Ibeno and Obolo. They share similarities in culture with the major nationalities as they have the same source of origin and also understand and speak Ibibio language.

Settlement patterns in Akwa Ibom State are predominantly the dispersed type and rural in nature. They are made up of compounds that are scattered over the village landmass. This landmass consists of farmlands, bushes or forestlands. This pattern according to Inyang (1984) affected the traditional land holding as ownership is vested more in individuals or families than in village communities. This prevailing pattern "encourages scramble for land" by individuals and families.

Methods of Data Collection and Analysis

The study employed a field survey approach. The data were collected through primary sources which consisted of personal observation of available social infrastructure during a reconnaissance visits to the sampled communities and questionnaire administration while secondary data were generated from the Akwa Ibom State Statistical Year Book and related agencies to authenticate the quality of data collected from the questionnaire survey and complement the data obtained through direct field observation of the sampled rural settlements.

400 households in 30 randomly sampled rural communities drawn from 19 out of the 31 LGAs of the state were selected for the study. The list of settlement selected for the study is shown in Table 1.

The Table of random sampling numbers was engaged in selecting the 19 LGAs while systematic sampling with a sample interval of 5 was used to select the household heads for the administration of the questionnaire.

The Yamane (1973) formula for finite population was employed to statistically determine the minimum sample size acceptable for generalization thus:

$$n = \frac{N}{1+N(e)^2} \dots\dots\dots(\text{equation 2})$$

Where n = sample size

N= Finite population (population of the 30 settlements).

e = Level of significance (0.05)

1= Unity

$$\frac{111244}{\dots\dots\dots}$$

$$1+111244x(0.05)^2$$

$$\frac{111244}{1+111244x(0.0025)}$$

$$1+111244x(0.0025)$$

$$\frac{111244}{278}$$

$$= 400$$

Based on this, a total of 400 households (target respondents) constituted the unit of data collection and analysis. The random sampling technique was employed in administering the questionnaires mainly to the household heads. However, other household members were allowed to provide relevant information which could not be adequately supplied by the household heads. Also, since the sampled settlements vary in population size, proportional representation was used to select the sample respondents in the thirty villages.

In a section of the questionnaire, the sampled respondents were asked to rate each proposition as it relates to the availability of social infrastructure with respect to potable water supply, electricity, telephone services, educational institutions, banking services, road type/quality, hospital and health facilities in their community using a rating scale with four responses clues which were later collapsed into two for purposes of analysis. The response clues indicated the degree of agreement on the fact that some forms of social infrastructural facilities were available in their community. The information generated was used to complement data generated by the authors' during reconnaissance survey of the sampled communities and data from Akwa Ibom State Statistical Year Book. The data gathered were analyzed using descriptive statistical technique.

List of Settlements with their 2006 Projected Populations and Sample Size

S/N	Communities	LGA	District	2006 POP	2024 Projected	Households	Sample size
1.	Ikot Akpadem	Mkpat Enin	**	2239	3499	699	13
2.	Nung Udoe Itak	Ikono	*	3497	5465	1093	20
3.	Mbiokporo 1	Nsit Ibom	*	1424	2225	445	8
4.	Nung Atai Eta	Okobo	**	3477	5435	1087	20
5.	Ukana	Abak	****	1270	1985	397	7
6.	Nkari	Ini	**	1321	2064	412	8
7.	Eweme	Okobo	**	1760	2751	550	10
8.	Ikot Obio Odongo	Ibesikpo A	*	1995	3118	623	11
9.	Ekeya	Okobo	**	6011	9396	1879	33
10.	Nwot Ikono	Etim Ekpo	****	3179	4969	993	18
11.	Ikot Ibiok	Eket	**	3165	4947	989	18
12.	Use Offot	Uyo	*	3674	5743	1148	21
13.	Mbiaso	Nsit Ibom	*	539	842	168	3
14.	Ibaka	Mbo	**	1420	2219	443	8
15.	Ikot Uko	Oruk Anam	****	542	847	169	3
16.	Ito Ika	Ika	****	722	1128	225	4
17.	Mbiakpa Ibakesi	Ini	**	2372	3707	741	13
18.	Mbiabong Ikon	Ikono	*	1022	1597	319	6
19.	Unyenghe	Mbo	**	2919	4562	912	16
20.	Uda	Mbo	**	2300	3595	719	13
21.	Abak Ikot	Abak	****	1136	1775	355	6
22.	Mkpok	Onna	**	2615	4087	817	15
23.	Ndom Ebom	Uruan	*	7189	11237	2247	40

24.	Oyoku	Urue Offong	***	1141	1783	356	6
25.	Eyulor	Urue Offong	***	1736	2713	543	10
26.	Utu Edem Usung	Ikot Ekpene	*	2857	4466	893	16
27.	Ikot Udo Obobo	Ukanafun	**	2183	3412	682	12
28.	Ituk Mbang	Uruan	***	4789	7486	1497	27
29.	Iqua	Ikot Abasi	**	1555	2430	486	9
30.	Utu Nsekhe	Etim Ekpo	***	1130	1766	353	6
		Total		71179	111244	22240	400

Source: Authors Fieldwork (2024)

III. Results and Discussions

This section discusses the nexus between infrastructural provision and poverty incidences imbedded in rural communities in Akwa Ibom State based on the availability, accessibility and usage of the infrastructures by the rural households in the rural community.

Table 2: Distribution of educational and health facilities

S/N	Population	No of Prim. Schools	Average Walking radius served by primary Schools (km)	No of Sec. Schools	Average Walking radius served by Schools (km)	No of Health Centers	Average Walking radius served by Health Centers (km)
1	3499	2	3.1	1	4.0	4	2.0
2	5465	2	5.1	2	5.4	5	2.5
3	2225	2	5.4	1	4.5	2	3.0
4	5435	2	3.5	1	2.5	3	3.7
5	1985	1	2.9	0	7.5	0	5.0
6	2064	6	3.7	1	3.5	1	6.0
7	2751	1	5.0	1	6.0	1	2.0
8	3118	1	4.0	1	37	4	3.5
9	9396	5	3.5	1	5.0	2	2.9
10	4969	1	4.5	1	4.4	0	6.4
11	4947	1	3.1	1	3.5	2	3.2
12	5743	2	2.6	2	5.4	0	5.5
13	842	0	7.0	0	6.5	2	3.5
14	2219	1	3.9	2	5.8	2	5.0
15	847	2	3.1	0	8.0	0	4.0
16	1128	0	6.8	0	7.5	0	6.0
17	3707	1	4.2	0	6.4	2	3.9
18	1597	1	3.7	0	6.0	0	4.5
19	4562	1	3.4	1	3.5	1	3.5
20	3595	1	3.2	1	5.0	2	3.0
21	1775	2	3.3	1	3.8	2	4.4
22	4087	3	4.4	0	6.8	1	3.2

23	11237	2	6.0	3	5.4	1	2.7
24	1783	1	2.9	1	3.7	1	2.4
25	2713	1	2.7	0	6.0	1	4.5
26	4466	2	4.9	1	4.5	3	3.9
27	3412	1	4.0	1	5.0	0	5.0
28	7486	2	3.4	0	6.5	3	3.5
29	2430	1	3.2	0	7	3	2.6
30	1766	1	3.3	1	4.9	0	6.0
Total	111249	49		25		48	

Source: Field Work (2024)

Note: The communities are arranged serially as in Table 11) Ikot Akpadem; 2) Nung Udoo Itak; 3) Mbiokporo 1; 4) Nung Atai Eta; 5) Ukana; 6) Nkari; 7) Eweme; 8) Ikot Obio Odongo; 9) Ekeya; 10) Nwot Ikono; 11) Ikot Ibiok; 12) Use Offot; 13) Mbiasso; 14) Ibaka; 15) Ikot Uko; 16) Ito Ika; 17) Mbiakpa Ibakesi; 18) Mbiabong Ikon; 19) Unyenghe; 20) Uda; 21) Abak Ikot; 21) Mkpok; 22) Ndom Ebom; 23) Oyoku; 24) Eyulor; 26) Eyulor; 27) Utu Edem Usung 28) Ikot Udo Obobo; 29) Ituk Mbang; Iqua 30); Utu Nsekhe

Table 2 showed information on the population of each sampled community, number of schools (primary and secondary), number of health centers, and average area served by these facilities. The table showed that Nkari has 6 primary schools, followed by Ekeya (5) and Mkpok (3), while nine settlements (Ikot Akpadem, Nung Udoo Itak, Nung Atai Eta, Use Offot, Ikot Uko, Abak Ikot, Ndon Ebom, Utu Edem Usung and Ituk Mbang) have 2 primary schools each. The remaining 15 settlements had one primary school each, leaving Mbiasso and Ito Ika with no primary school. This implies that pupil from Mbiasso and Ito Ika communities have to walk over a long distance to access educational infrastructure.

The distribution of primary schools in the sampled communities shows inequalities in both the number and areas served by them. The location of all the primary schools exceeds the maximum walking distance or threshold requirement of 2.5km (Vagale, 1974; Mabogunje, 1974; UN 1995) requirement for primary schools. Majority of the communities are disadvantaged as the total number of primary schools in existence is at variance with their total population. There are communities that do not deserve a school or have more than their fair share in relation to their population. Against the foregoing, the goal of the universal access to basic education with the completion of primary education by at least 80percent of primary school age population, aimed at reducing illiteracy level could therefore be said to have been defeated in the rural communities. For a state like Akwa Ibom, which has recently declared her commitment toward achieving the Sustainable Development Goals (SDGS) by launching free and compulsory education a both primary and secondary school levels, the use of service location is critical to effective and efficient achievement of the goal.

In terms of the distribution of secondary schools, Table 2 revealed that while Ndon Ebom has 3 secondary schools, three settlements (Nung Udoo Itak, Use Uffot, and Ibaka) all have 2 secondary schools each. 16 settlements (Ikot Akpadem, Mbiokporo 1, Nung Atai Eta, Nkari, Eweme, Ikot obio Odongo, Ekeya, Nwot Ikono, Ikot Ibiok, Unyenghe, Uda, Abak Ikot, Oyoku, Utu Edem Usung, Ikot Udo Obobo and Utu Nsekhe) each has a secondary school. Other settlements (Ukana, Mbiasso, Ikot Uko, Ito Ika, Mbiakpa Ibakesi, Mbiaobong Ikon, Mkpok, Eyulor, Ituk Mbang and Iqua) have no secondary school. The average walking distance and areas served by the nearest secondary school were also considerable for most of the rural settlements.

The range of most of these secondary institutions (maximum distance from home) exceeds the household requirement of 5km in education sector. The inadequate and, in most cases lack of educational infrastructure in the communities has some far reaching implications for the generation of rural poverty. Educational infrastructure as a welfare service requires central locations for its efficient delivery. The demand and supply function for educational services as with other welfare services is a vital element in any consideration of designing poverty alleviation programme. Lack of adequate facilities for higher and technical education and low levels of formal schooling are some of the other important features of the sampled communities. With the exception of Ikot Akpadem which has a university campus, none of the other communities had more than a secondary school or none among which ten communities have only primary Schools. This trend of development in the educational sector also epitomizes the existence of inequality in the sampled communities. Consequently, some areas are better off than others in terms of access to educational facilities.

Apart from the inadequate educational infrastructure provision, one other determinant of poverty that was noticed in the rural communities was inadequate, and in some cases, completes absence of medical facilities. Table 2 revealed that medical facilities in the rural communities are unevenly distributed both in terms of number and areas served by them. Aside a settlement (Nung Udoo Itak) which has 5 health centers, 2 settlements (Ikot Akpadem and Ikot Obio Odongo) each have 4 health centers. This is followed

by Nung Atai Etta, Utu Edem Usung, Ituk Mbang and Iqua each having 3 health centers respectively. While eight communities (Ukana, Nwot Ikono, Use Offot, Ikot Uko, Ito Ika, Mbiabong Ikon, Ikot Udo Obobo and Utu Nsekhe) do not have any health facility, about eight other communities (Mbiokporo 1, Ekeya, Ikot Ibiok, Mbiaso, Ibaka, Mbiakpa Ibakesi, Uda and Abak Ikot) have 2 health centers each with seven other communities (Nkari, Enweme, Unyenghe, Mkpok, Ndon Ebom, Oyoku and Eyulor) having just one health centre each.

All the communities in the study area could be said to be better off in terms of the average traveling or walking distance to the nearest health facilities, as none of the health centre is located close to the threshold requirements of 24kms. It may therefore be concluded that our rural areas are yet to have adequate access to healthcare services. Generally, some settlements had more than their fair share in terms of type of facilities being provided. For instance, higher order facilities such as general hospital and health centers were observed in settlements with threshold requirements for health clinics and dispensaries whereas some settlements with higher threshold requirement had no facility of any kind.

Although health facilities existed in most of the sampled communities, they lack drugs, inadequate accommodation and personnel. The consequence of which manifests in high frequency of illness and disease of which the most prevalent are malaria and typhoid. In spite of long standing campaign to eradicate malaria in Nigeria (the “roll back malaria” programme), the poverty situation which the rural households are trapped in still makes it difficult for the people to access the available modern health care facility.

Table 3: Distribution of banks, markets, water and electricity supply

S/N	Population	No of mar- kets	Average Walking radius served by markets (km)	No of Banks	Average Walking radius served by Banks (km)	Presence of public water supply	Average Walking radius served by water supply (km)	Presence of Electricity
1	3499	2	3.5	1	2.8	1	3.3	1
2	5465	2	4.4	1	2.4	1	4.0	1
3	2225	0	5.5	0	13.0	0	7.8	1
4	5435	2	4.2	0	3.0	1	3.1	1
5	1985	2	3.3	0	9.1	1	5.0	1
6	2064	0	6.5	0	17.2	0	7.2	0
7	2751	2	3.5	0	11.6	1	2.9	1
8	3118	1	3.8	0	2.0	1	3.8	1
9	9396	2	5.0	0	6.9	0	7.0	1
10	4969	1	6.1	0	6.6	1	3.0	0
11	4947	0	6.8	0	4.7	1	2.8	1
12	5743	1	2.9	0	6.2	1	3.5	1
13	842	1	2.7	0	8.3	1	2.6	1
14	2219	1	2.6	0	6.6	1	3.0	1
15	847	0	5.9	0	6.4	0	7.5	0
16	1128	1	3.1	0	4.2	0	7.1	1
17	3707	0	5.3	0	5.0	0	6.5	1
18	1597	0	5.7	0	6.3	1	2.7	1
19	4562	1	3.7	0	8.9	0	7.0	1
20	3595	2	3.2	0	5.8	0	5.3	1
21	1775	1	5.4	0	3.5	1	3.7	1
22	4087	1	4.0	0	2.9	0	7.0	1
23	11237	1	3.4	0	18.8	1	5.3	1

24	1783	1	3.0	0	4.8	0	3.7	1
25	2713	0	5.0	0	4.4	0	7.5	1
26	4466	2	2.8	0	3.1	1	4.0	1
27	3412	1	4.5	0	3.3	0	7.2	1
28	7486	2	4.3	1	14.3	1	7.4	1
29	2430	1	2.7	0	13.0	0	2.8	1
30	1766	2	3.6	0	11.4	1	6.8	1
Total	111249	33		3		17		27

Source: Field Work (2024)

Note: The communities are arranged serially as in Table 1

Note: The communities are arranged serially as in Table 1) Ikot Akpadem; 2) Nung Udoe Itak; 3) Mbiokporo 1; 4) Nung Atai Eta; 5) Ukana; 6) Nkari; 7) Eweme; 8) Ikot Obio Odongo; 9) Ekeya; 10) Nwot Ikono; 11) Ikot Ibiok; 12) Use Offot; 13) Mbiaso; 14) Ibaka; 15) Ikot Uko; 16) Ito Ika; 17) Mbiakpa Ibakesi; 18) Mbiabong Ikon; 19) Unyenghe; 20) Uda; 21) Abak Ikot; 21) Mkpok; 22) Ndom Ebom; 23) Oyoku; 24) Eyulor; 26) Eyulor; 27) Utu Edem Usung 28) Ikot Udo Obobo; 29) Ituk Mbang; Iqua 30); Utu Nsekhe

Table 3 showed information on population of each settlement, number of daily markets, number of banks, public water supply, and average area served by these facilities and communities connected with electricity. The Table 3 further shows that 10 communities (Ikot Akpadem, Nung Udoe Itak, Nung Atai Eta, Ukana, Eweme, Ekeya, Uda, Utu Edem Usung, Ituk Mbang and Utu Nsekhe) have 2 markets each while 13 (Ikot Ibio Odongo, Nwot Ikono, Use Offot, Mbiaso, Ibaka, Ito Ika, Unyenghe, Abak Ikot, Mkpok, Ndon Ebom, Oyoku, Mkpok, Ikot Udo Obobo and Iqua) communities have 1 market each. The remaining 7 rural communities (Mbiokporo 1, Nkari, Ikot Ibiok, Ikot Uko, Mbiakpa Ibakesi, Mbiabong Ikon and Eyulor) have no market. These communities depend on daily market in neighboring communities and periodic market for the sales of their produce. The study showed that many settlements (20) had improved access to marketing facilities in terms of average traveling or walking distance as only 10 settlements had access to market beyond 5 km distance.

Data in Table 3 also revealed that the numbers of banking services in the rural communities are grossly inadequate. For instance, of the thirty sampled communities, only three communities (Ikot Akpadem, Nung Udoe Itak, and Ituk Mbang) have access to banking facility while the remaining other communities have no access to banking facility. These communities therefore relied on the banking services in their respective or nearby local administrative headquarters. The distribution of the banking facility shows that three communities respectively have 1 bank each. In terms of average walking distance to the nearest banking facilities, it was observed that a majority of the sampled settlements and thus, of the people were far remote from banking facilities as it took more than 5 km to access the nearest bank. Only 5 settlements had access to banking facilities within a 3 kilometers distance. The distribution of banking facility in the sampled communities shows inequalities both in number and areas served by them. Poverty incidences is thus expected to be on the rise, as the rural households lack access to credit facility, and are not significantly empowered to contribute to the process of capital formation.

It is evidence in Table 3 that majority (17) of the rural communities have portable water supply while 13 communities do not. The average walking distance in accessing the available water supply in the sampled settlements is 5kms. This is indeed very high compared with 200 meters threshold requirement in accessing water source from borehole in rural communities. Generally, all the settlements had distances longer than the recommended threshold. Thus, it could be concluded that the level of access to portable water supply in the study area is very poor. This is due to the fact that no settlement has attained the minimum recommended standard of one borehole for every 250 population. The number of boreholes as observed from field study does not correlate positively with the existing population. Virtually all the sampled communities have electricity, except three communities (Nkari, Nwot Ikono and Ikot Uko).

Table 4: Distribution of Postal Agency, Motor Park, Communication Facilities and Roads

S/N	Population	No. of Postal Agency	Average Walking radius served by Postal Agency (km)	No. of Motor Parks	Average Walking radius served by Motor Park (km)	Presence of Communication facility	Location on major road	Usage Intensity	Remarks
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1	3499	1	2.1	1	3.2	3	3	<30m	High
2	5465	1	5.3	1	3.6	4	3	<30m	High
3	2225	0	130	1	2.8	2	2	30-1hr	Moderate
4	5435	0	3.0	0	3.0	3	3	<30m	High
5	1985	0	9.1	0	9.1	1	2	30-1hr	Moderate
6	2064	0	17.2	0	17.2	1	1	>1hr	low
7	2751	0	11.6	0	11.6	0	2	30-1hr	Moderate
8	3118	0	2.0	1	2.0	1	2	30-1hr	Moderate
9	9396	0	6.9	0	6.9	0	2	30-hr	Moderate
10	4969	0	6.6	0	6.6	0	1	>1hr	Low
11	4947	0	4.7	0	4.7	1	3	<30m	High
12	5743	0	6.2	0	6.2	4	2	30-1hr	Moderate
13	842	0	8.3	0	8.3	1	2	30-1hr	Moderate
14	2219	0	6.6	1	3.4	4	3	<30m	High
15	847	0	6.4	0	6.4	0	1	>1hr	Low
16	1128	0	4.2	0	4.2	0	1	>1hr	Low
17	3707	0	5.0	0	5.0	0	2	30-1hr	Moderate
18	1597	0	6.3	0	6.3	0	1	>1hr	Low
19	4562	0	8.9	0	8.9	1	1	>1hr	Low
20	3595	0	5.8	0	5.8	0	1	>1hr	Low
21	1775	0	3.5	0	3.5	0	3	<30m	High
22	4087	0	2.9	0	2.9	0	1	>1hr	Low
23	11237	1	6.2	0	18.8	5	3	<30m	High
24	1783	0	4.8	1	5.0	1	3	<30m	High
25	2713	0	4.4	0	4.4	0	1	>1hr	Low
26	4466	1	3.1	0	3.1	3	3	<30m	High
27	3412	0	3.3	0	3.3	1	3	<30m	High
28	7486	1	9.5	1	4.1	4	3	<30m	High
29	2430	0	13.0	0	13.3	1	3	<30m	High
30	1766	0	11.4	0	11.4	1	1	>1hr	Low
Total	111249	5		7		42			

Source: Field Work (2024)

Note: The communities are arranged serially as in Table 1

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Information on the population of each sampled community, number of communication facility (GSM mast), and the types of roads providing accessibility to the various communities as well as the area served by the postal agency and motor park is presented in Table 4. The table showed that access to efficient postal services is restricted to only five communities (Ikot Akpadem, Nung Udoo Itak, Ndon Ebom, Utu Edem Usung and Ituk Mbang) while postal services are non-existent in the other 25 communities. In terms

of average walking distance to postal services, it is observed that a majority of the settlements (26) and of the people in the study area are far remote from these facilities, as it takes more than 5kms to access the nearest postal services. Only 4 settlements have access to postal services within a 3km distances. The inequalities in the distribution and access to postal service in the sampled communities further unravel the level of under development of these communities.

Table 4 showed further that in terms of telecommunication systems, 5 (Ndon Ebom, Nung Udoe Itak, Use Offot, Ibaka, and Ituk Mbang) settlements are best served with this amenity. This may probably due to the location of these settlements along major transportation routes, serving as arteries for power transimision lines and communications poles. This is followed by 3 other settlements: Ikot Akpaden, Nung Atai Eta, and Utu Edem Usung. The provision of telecommunication system is lowest in a settlement (Mbiokporo 1) and poorest in 10 settlements (Ukana, Nkari, Ikot Obio Odongo, Ikot Ibiok, Mbiaso, Unyenghe, Oyoku, Ikot Udo Obobo, Ikwa and Utu Nsekhe). 7 settlements (Eweme, Ekeya, Nwot Ikono, Ikot Uko Ito Ika, Mkpok and Eyulor) are disadvantaged. This could be due to the remoteness of these settlements from the major roads. The rural communities could be said to have largely been neglected in the provision of basic communication facilities, in spite of government efforts in recent time in ensuring that considerable number of the rural households have access to efficient postal and telecommunication systems.

The degree of isolation (availability of roads and paths which are usable at all times, length of time and availability of motor parks, which in turn determines the ease of getting transportation to work and the degree of personal safety) is a significant determinant of level of living. Table 4 further revealed that 23 out of the sampled communities have no motor park, while seven communities (Ikot Akpaden, Nung Udoe Itak, Mbiokporo 1, Ikot Obio Odongo, Ibaka, Oyoku, and Ituk Mbang) have one motor park each. There is no doubt that Akwa Ibom State has a good road network connecting all the local government headquarters to the State Capital and in some cases some communities to the local administrative headquarters. Table 3 indicated that the total of 12 communities (Ikot Akpaden, Nung Udoe Itak, Nung Atai Eta, Ikot Ibiok, Ibaka, Abak Ikot, Ndon Ebom, Oyoku, Utu Edem Usung, Ikot Udo Obobo, Ituk Mbang, and Ikwa) are linked by paved federal roads while eight communities (Mbiokporo 1, Ukana, Eweme, Ikot Obio Odongo, Ekeya, Use Offot, Mbiaso and Mbiakpa Ibakesi) are linked by state roads. 10 communities (Nkari, Nwot Ikono, Ikot Uko, Ito Ika, Mbiabong Ikon, Unyenghe, Uda, Mkpok, Eyulor and Utu Nsekhe) are linked by local government roads. This suggests that majority of the sampled communities are located along federal and state roads, which are characterized by better condition than local roads.

In terms of the usage intensity of existing road networks in the sampled communities (usage intensity of roads was measured in terms of the time taken to get a motorized mode of transportation to and from the communities), a total of 12 communities, have high usage intensity of roads (Table 4). Incidentally, these are communities linked by federal roads. Moderate usage of roads was the characteristics of 8 communities while low usage intensity was observed in 10 of the sampled communities. It could, however, be adduced that high roads usage intensity are dominant feature of communities that are linked by federal roads while moderate intensity of usage is associated with state roads and low usage intensity with local government roads. It is apposite to remark that the length of time in accessing a motorized mode of transportation is longer on local roads with low safety risk level than on state and federal roads. Thus, the remoteness of majority of the sampled communities which lowers the prices the peasant households get for their goods and raise the price they pay for purchases, due to high transport costs is a contributing factor to the problem of food insecurity among the rural poor. Inadequate public services, weak communications and infrastructure, as well as underdeveloped market are dominant features of life among the households in rural Akwa Ibom State, as in many other parts of developing countries. These clearly worsen their poverty situation.

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IV. Conclusion

The existence of large scale inequalities in the stock of social infrastructure provision among the rural communities in the study area was also identified. Poor access to basic social facilities that are essential for welfare of the people negates the attainments of the widely publicized Sustainable Development Goals (SDGs). Beside, inequitable access to life supportive facilities as evidenced in the sampled communities is also at variance with the national philosophy of social justice and equity and ideals of freedom and opportunity as clearly articulated in Nigeria's constitution. This concern is justified in view of the multiplier effects of social infrastructure provision on development process of any society.

V. Recommendation

Inequality in access to basic social infrastructure in rural communities has serious consequences for rural development and regional integration. There is therefore need for deliberate efforts by the government at the State and National levels to increase budgetary allocations through a thoroughly supervised expenditure on investment in infrastructural provision in the rural communities to be made as these facilities have been found to influence productivity of the rural dwellers and also affect their sustainability. Added to this is the need for the mapping of the developmental patterns at the state level of the study area, as it would provide veritable tool for policy makers attempting to balance the distribution of social infrastructure in order to enhance the spread of development in all facets of the state.

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