PERSPECTIVES IN REGIONAL DEVELOPMENT IN NIGERIA.

A Festschrift In Honour of

PROFESSOR ADEBISI FUNSHO ADEDAYO

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Professor Adebisi Funsho Adedayo

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CHAPTER TWENTY

Settlements' Ranking and Infrastructure Provision in Niger State, Nigeria

By

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Abstract

This study ranks some selected rural settlements according to available infrastructure in Niger state of Nigeria. To achieve this aim, twenty-two(22) rural settlements were randomly selected. Spearman's Rank Correlation (rs) was used to determine the relationship between the population size and the available infrastructure provided in the selected rural settlements. The study discovered that availability of infrastructure in selected rural settlements in Niger State seems to be related to the size of the rural settlements. For instance, Paiko, Kuta, Wushishi and Gawu Babangida ranked high in both population size and infrastructural score. Spearman Ranks correlation (rs) of r = 0.553 indicate a positive correlation between population size and infrastructure. This was observed to conform with Christallers's central place theory that high-order centre supply a variety of goods and services, have larger population and support more establishments than low-order centres. The study recommends provision of rural infrastructure and their proper maintenance to improve the standard and quality of life of rural residents in the state.

Keywords: *Rural Infrastructure, Scores, Ranking, Population size, Rural settlements Availability, Classification.*

Introduction

The rural sector, with abundance of human and natural resources, has remained the treasure of the nation accounting for more than half of the nation's population (Federal republic of Nigeria, 2006). Yet, Nigerian rural communities are "centre of deprivation" with life often devoid of opportunities and choice and an environment lacking in infrastructure including roads, water supply, electricity, health and education. Idachaba (2006) notes that in the First National Development Plan (1962 – 68) for Nigeria, there was a specific provision for the dispersal of social overheads and infrastructural facilities to rural areas. Similarly, in the Second National Development Plan (1969 – 74), the worsening rural-urban drift led the plan to stress the importance of controlled dispersal of social-overhead and infrastructure that must be physically planned in such a way as to coincide with functional or sectorial planning objectives. However, by the end of the second plan period, the strategic role of rural infrastructure had gained due recognition in Nigerian public policy as many states created institutions for provision of and expansion of facilities (Idachaba, 2006). It should be noted that the third National Development Plan (1975 – 80), made specific and explicit allocation for infrastructural development.

There is no doubt that availability of rural infrastructure constitutes the substance of rural welfare. Idachaba (1985) emphasises that the efforts to raise rural welfare must necessarily go beyond the traditional and limited approach raising per capita income through agricultural development projects, to the provision of

rural need such as health and medical facilities, electricity, pipe-borne water and schools. Thus, rural Nigerians must be appreciated beyond their roles as mere producers of food and fibre for the need of urban counterparts, to the good things of life (Idachaba, 1985).

Literature Review

The term 'settlements' is a geographical concept describing an inhabited built up area of land occupied by people for shelter and other socio-economic activities. It is a group of building in which people live in order to make a living out of the environment. However, the units of settlement vary in size, complexity of function and stage of development (Adegunwa, 1986, cited in Olawepo, 1997; and Jolayemi, 1992. It therefore follows from the above that a settlement could be classified as either rural or urban.

However, the problem of defining rural settlements is complex because the criteria for defining urban/rural area tend to differ from one discipline to another, from one nation to another or from one culture to another and even from one period to another (Onakerhoraye and Omuta, 1986). In Africa, for example, the definition of urban/rural areas varies from country to country and within each country from time to time. The only form of data that is available in African countries as far as urban/rural definition is concerned is demographic. As a result, many scholars use demographically based definition in distinguishing urban settlements from rural settlements. Consequently, Okafor and Onokerhoraye (1986) note that in view of a wide variety of figures used by different countries most researchers use the United Nation Economic Commission for African's definition as follows:

(a) Locality with 500,000 or more = Big city
(b) Locality with 200,000 – 499,999 = Medium city
(c) Locality with 100,000 – 199,999 = City
(d) Locality with 20,000 – 99,999 = Urban locality
(e) Locality with less than 20, 000 rural localities

The categorization therefore defines settlement with 20,000 or more inhabitants as urban while places with less than 20,000 people are regarded as rural settlements. In Nigeria, different types of population size at different time had been adopted to differentiate between urban and rural settlements. For example, in 1953, an urban settlement was defined as a settlement with a population of 5,000 or more while in 1963, the figure used was 20,000 0r more (NISER, 1997). Presently, all settlements with population below 20,000 people or more are regarded as urban settlements, while settlements with population below 20,000 are rural settlements (NPC, 1998; Omole, 2000; Abumere, et al 2002; Olujimi, 2005).

Apart from using demographic statistics to define rural settlements, socio-economic characteristics have also been used to distinguish rural settlement from urban settlements. For example, Wolfe and Fischer (2003, cited in Madu, 2008a) argue that there are features that are primarily marks of rural areas. In accordance with the primary and cultural perspectives, rural settlements have been characterized by specific open landscape; a relatively low population; the greater part of the population is associated with agriculture and forestry; traditional (close to nature) life style and habits; extensive use of land; a scarcity of built up areas and settlement that are dispersed; and a preponderance of inhabitant considering themselves country dwellers (Halfacree, 1995, Banski and Stola 2002; cited in Madu 2008b).

This is in agreement with, Adedayo (1998) who earlier noted that rural settlements are generally regarded as areas of a region or country that lie outside the densely built-up environmentsvillage of towns, cities andsuburban villages whose inhabitants

engage in primary as well as rudimentary forms of secondary and tertiary activities. They are made up of settlements which in their simplicity of form and function reflect the essential agricultural environments(Areola, 1987). Lawrence (1990) describes rural settlements as areas where rate of poverty and unemployment are high and the range of work opportunity is much narrower. Similarly, Wimberly (1993) describes rural settlements as places having higher rate of unemployment and mortality and less access to education and employment, training and other human services that urban areas take for granted. Using socio-economic attributes, Omole (2001) describes rural settlements as areas where the majority of the inhabitants are engaged in primary activities like farming, fishing, mining, lumbering and so on, where the per-capita income is significantly lower than the national average, and so on, where the population lacks basic social amenities such as good drinking water, electricity and so on.

Obasangoand Mabogunje (1991) state that rural settlements are characterized by their depleted work-force, their rudimentary and inefficient mode of production, their general lack of basic infrastructure and social amenities such as safe potable water, all season access roads, telecommunication, electricity, schools, medical facilities, good houses and recreational facilities, the paucity of processing factories, markets, banks, storage depots and machine repair shops and their low level of health care delivery, nutrition hygiene, education and social awareness. However, they also note that the, rural settlements have managed to preserve their age-old traditional cultural linkages and heritage and thereby are more socially stable and more amenable to mobilization through respected leadership and acceptable organization. However, for the purpose of this study the demographic criterion has been used to define rural settlement. Consequently, rural settlements as used here are settlements with population of less than 20,000 people.

Review of Related Studies

Several studies have been conducted on rural infrastructure and wellbeing of rural residence (Lanjouw and Langouw, 2001; Baye, 2001; Madu, 2007; Kanagawa and Nakata, 2008; Barriers, 2008, and Cook, 2011). For instance, Lanjouw and Lanjouw (2001) carried out a study on rural non-farm sector where they argued that rural infrastructure is crucial to the growth of the rural non-farm sector. Although improved infrastructure may have a detrimental impact on rural non-farm enterprise due to competition from outside products and shifts in tastes, poor infrastructure also imposes serious costs on rural firm.

Bayes (2001) evaluate the role of telecommunications within the contexts of rural development in general and of poverty reduction in particular in Bangladesh. Bangladesh has been selected as a case study due to the uniqueness it displayed in an innovative program for expanded telecom infrastructure, in which Grameen Bank (GB) of Bangladesh, the village-based micro-finance organisation, leased cellular mobile phones to successful members. GB calls these phones village pay phones (VPPs). Their findings lead to two basic conclusions: first, pursuance of pragmatic policies can turn telephones into production goods, especially through lowering transaction costs, and second, the services originating from telephones in villages are likely to deliver (even) more benefits to the poor than to the non-poor. The VPPs also seem to have perceptible and positive effects on the empowerment and social status of phone-leasing women and their households. For villagers in general, phones offer additional non-economic benefits such as improved law enforcement, more rapid and effective communications during disasters, stronger kinship bonding, etc. GB's style of managing communications can help

significantly to expand access to this vital information input for all segments of the population, reduce inequality and thus enhance the broad-based, pro-poor orientation of rural development activities. Kanagawa and Nakata (2008) examine the relationship between access to electricity and advancement in a socio-economic condition in rural areas of developing countries. They argued that economy, education, and health, has been increasingly focused on, and access to modern energy such as electricity is one possible solution. They analysed rural areas that were not electrified in Assam state, India. They developed an energy-economic model in order to analyse the possibility of electrification through dissemination of electric lighting appliances as well as applied multiple regression analysis to estimate the socioeconomic condition, a literacy rate above 6 years old, in the areas. As a result of the case study, the household electrification rate, the 1000 km2 road density, and sex ratio have been chosen as the explanatory variables of the literacy rate. Moreover, their model analysis shows that complete household electrification will be achieved by the year 2012. In combination with the multiple regression and model analysis, the literacy rate in Assam may increase to 74.4% from 63.3%.

Barrios (2008), proposes a household model that relates various development interventions, such as infrastructure, to rural development. The model is then estimated using data from a household survey in which rural development outcomes are measured in terms of a perception scale. Household perceptions are important early lead indicators of rural development outcomes that manifest later. Rural poverty is linked to the exposure of the households to economic vulnerability, through their chronic dependence on agriculture for income generation. The author argued that sustainable rural development would follow, provided that there was an ample corporate social responsibility programme among these firms to avert a widening of inequality. A natural resource management strategy would also be needed for ecological integrity. Community participation is crucial in identifying development projects; it can help to minimise the wastage of resources on inappropriate projects, and enable resources to be allocated instead it to other productive uses. The provision of rural roads should be bundled properly with support services and capacity-building activities. This can enhance the demand for other infrastructure and services, resulting in a dynamic evolution of essential elements in the pursuit of rural development. Public investments in infrastructure and in users' fees can complement each other, in the continuous provision of new infrastructure and the maintenance of existing infrastructure, to create a sustainable track towards rural development.

Cook (2011) observed that recent interest in rural electrification has emphasised the importance of linking its development with productive uses for energy and poverty reduction. This has been viewed as necessary to increase the pace of rural electrification and reduce its concentration on a relatively small number of developing countries. Despite this emphasis, progress in electrifying remote rural areas has been slow. In part this has been attributed to the emphasis on cost recovery and a reliance on the private sector to deliver electricity widely. The author critically reviews the economic and social issues underlying the development of rural electrification, drawing on the experience with both grid and off-grid applications in developing countries and assesses the impact of electrification on the ability to generate income in rural areas. He concludes that the beneficiaries of rural electrification, the constraints that are faced in stimulating economic activity that will contribute to making rural electrification more feasible and affordable and to the importance of

complementary services and appropriate institutions are needed to support rural electrification.

Madu (2007) analyzes the patterns and underlying factors of rural development in the Nsukka region of southeastern Nigeria. He identifies leading and lagging communities with a view to making appropriate recommendations for even development. He selected 35 rural communities randomly and their scores on selected infrastructural facilities were used to ascertain the pattern of rural development. The relative strength of the underlying factors was determined by factor analysis. The results reveal a disparity in the spatial distribution of rural development facilities, with communities on the central plateau fairing better. Factor analysis revealed 4 underlying factors that account for 71.3% of the total variance. According to him, one implication of the results is that achievement of spatially even rural development will require the adoption of an integrated governmental approach.

The review of empirical literature presented here has indicated that while several studies have been carried out to investigate the rural infrastructure development, little or no attention is given to settlement ranking based on rural infrastructure provision. It is against this background that this paper assesses settlement's ranking and infrastructure provision in Niger State of Nigeria.

Study Area

Niger state is located between latitudes 8° 20' N and 11° 30' N and longitude 3° 30' E and 7° 20' E. the state is situated in the North Central geo-political zone and shares its borders with the Republic of Benin (West), Zamfara State (North), Kebbi (North-West), Kogi (South), Kwara (South-West), Kaduna (North-West) and the Federal Capital Territory FCT (South-East) (Niger State Government, 2004). Figure 1 shows the location of Niger state in Nigeria. The state covers a total land area of about 76,000sq.km, or about 9 percent of Nigeria's total land area. This makes the state the largest in the country (Baba, 1993; Online Nigeria, 2003). At inception in 1976, the state had only eight Local Government Areas (LGAs), however, with the series of state and local government creation exercises and boundary adjustments between 1979 and 1996; the number of LGAs in the state has increased to twenty-five.

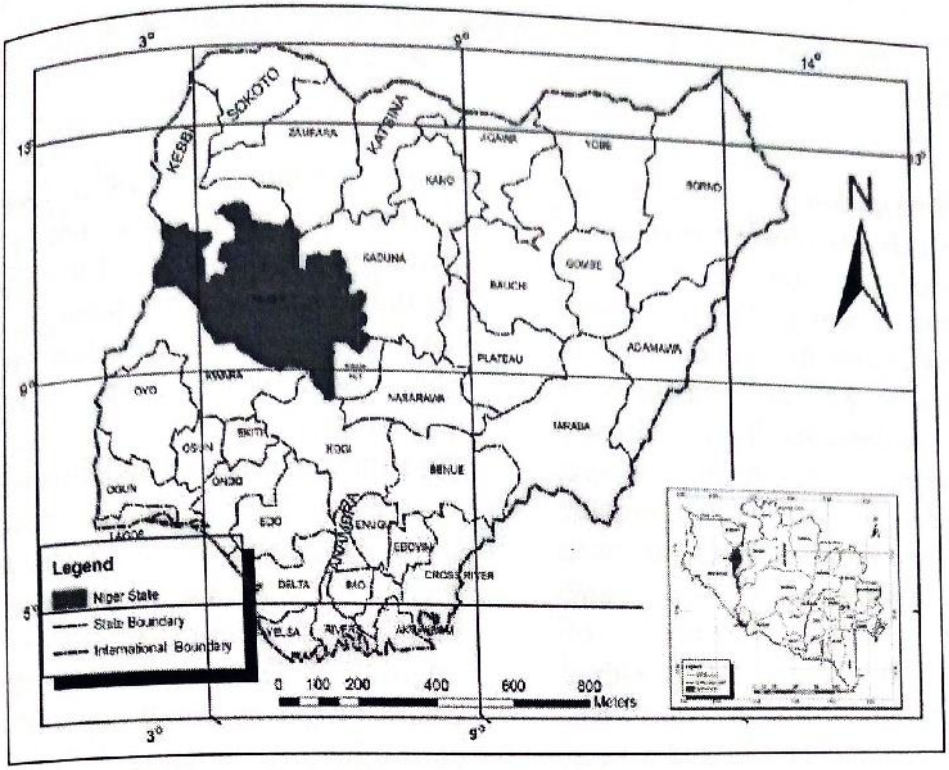

Figure 1: Location of Niger State in Nigeria.
Source: Federal Ministry of Lands, Housing and Urban Development, Abuja.

In terms of human settlements, the majority of the people of the State reside in rural areas. According to Baba (1993) for example, 90 percent of the state population were rural residents. Similarly, following 1991 population census Morenikeji, et. al (2000) reported that there were 2,371 rural settlements with a total population of 1,868,939 and eight urban settlements with a combined population of 552,642 in the state making the state essentially rural. According to Baba (1993), the characteristic rural settlements in the Nupe cultural area are of the nucleated type in which each settlement consists of many compounds built in close quarters and each compound houses a family which is an independent production/consumption unit. On the other hand, outside Nupe territory, dispersed rural settlements predominate in northern local government areas of Mariga, Magama, Borgu and Shiroro in which the residents in which the residents commonly form one unit of production/consumption. Some of the major urban settlements in the state include Minna the State Capital, Bida, Suleja and Kontagora

Research Methods

Infrastructural score for each rural settlement was obtained using addition of all infrastructures (See Appendix). A weight is then attached to each facility. The weights were determined by assigning (1) to very low-order facility, (2) to low-order facility, (3) to high order facility, and (4) to the highest order facility that were available in each settlement. In this case, for health facilities, dispensary is weighted (1) clinic (2), health centre (3) while hospital is weighted (4). Similarly, for educational facilities, primary school is weighted (1), secondary school (2) and tertiary (3). Spearman's Rank Correlation (rs) was used to determine the relationship between the population size and the available infrastructure provided in the selected rural settlements.Location Quotient (LQ) technique developed by Isard (1960) was used to determine the degree of concentration (i.e. availability) of infrastructure in the selected settlements. LQ tells us whether a settlement has less than enough or more than a fair share of a particular infrastructure (Morenikeji, 2006).

Results and Discussion

Ranking and Infrastructure Provision

The study revealed a pattern of rural settlements grouping. The first group consists of settlements that ranked high in population size as well as infrastructural score. These settlements include Paiko, Kuta, Doko, Wushishi, and GawuBabangida. An important characteristic of these settlements was their large population size and corresponding high number of infrastructure. In this group, Paiko with a population of 18,436 and a rank of 1st has an infrastructural score of 139 and a rank of 2nd. The possible reason for this may not be unconnected with the administrative status of these settlements being the headquarters of their respective local government areas. For example, Paiko, Kuta, Wushishi and GawuBabangida are headquarters of Paikoro, Shiroro, Wushishi and Gurara local government areas respectively, while Doko was the headquarter of defunct Doko local government area.

The second group consists of settlements that ranked high population size but low infrastructural scores. These settlements include TungaMagajiya, SarkinPawa, Rafin Gora, Wawa and Gbajibo. These settlements were characterized by large population but with corresponding few number of infrastructure. An example is TungaMagajiya with population size of 12,171 with a rank of 5th and a corresponding infrastructural score of 38 with a rank of 14th. The possible explanation for this may not be connected with the long distance of these settlements to their respective headquarters. However, an exception to this is sarkinPawa which is the headquarters of Munya local government area.

The third groups of settlements are those that ranked low in population size but high in infrastructural scores. These settlemenst include Agwara, Baddegi, Enagi, Maikunkele, Lemu, SabonWuse, Gulu and Tegina. These settlements were characterized by small population size but corresponding large number of infrastructure. A typical example is Agwara with a population of 3,743 with a rank of 17th and a corresponding infrastructural score of 53 and a rank of 9th. The possible explanation may not be unconnected with the administrative status of these settlements and the advantage of their locations along the federal roads.

The fourth groups are settlements that have more or less the same rank in terms of both population size and infrastructural score of 29 with a rank of 17th. The possible explanation for this may not be unconnected with the remoteness of the locations of the settlements in relation to federal roads as well as to the state capital. The rural settlements ranked by the population size and infrastructural scores are shown in Table 1.

Table 1: Settlements' Rank by Population Size and Infrastructural Scores

Settlements	Population	Rank	Score	Rank
Agwara	3,743	17	53	9
i. Baddegi	6,700	14	79	6
ii. Bangi	7,177	12	39	13
iii. Doko	14,774	3	102	3
iv. Enagi	7,557	11	53	9
v. Gawu	10,859	6	70	7
vi. Gbajibo	7,083	13	18	20
vii. Gulu	4,411	16	38	14
viii. Kuta	15,966	2	150	1
ix. Kutiriko	3,973	16	34	16
x. Lemu	3,743	17	46	11
xi. Maikunkele	6,680	15	85	5
xii. Mashegu	1,675	19	27	18
xiii. Nasko	3,015	18	29	17
xiv. Paiko	18,436	1	139	2
xv. Rafin Gora	8,787	7	22	19
xvi. SabonWuse	7,614	10	68	8
xvii. SarkinPawa	7,984	8	48	10
xviii. Tegina	5,981	15	42	12
xix. TungaMagajiya	12,171	5	38	14
xx. Wawa	7,942	9	42	12
xxi. Wushishi	13,243	4	88	4

Source: Author's fieldwork 2011

Population Size and Infrastructure Provision

In order to determine the type and degree of relationship between the population size and infrastructure in each of the settlements, the data were subjected to the Spearman's rank correlation technique. The calculation is presented in Appendix III. The correlation coefficient(r) obtained is0.553. This value indicates a positive correlation between the population size and the scores of infrastructural and socio-economic facilities.

The level of significance of the correlation was equally tested. It was found to be significant at 0.05 level of significance (P value 0.008). This indicates that the correlation between the population size and available infrastructure is significant. The positive correlation (r=0.553) can be interpreted to mean that the bigger the settlement the more the number of infrastructural facilities it contain. This statement is true for some settlements like Paiko, Kuta, Doko, Wushishi and Gawu Babangida. These are settlement with large population size as well as large number of infrastructure. Some of these settlements have served as traditional market centres in the past there by attracting large population. Similarly, some settlements currently serving as headquarters of local government areas attracted investments in infrastructure such as water, electricity, roads, school and health centres.

However, a closer examination of Table 2 shows that there were some deviant cases from this generalisation. Such settlements includeAgwara, Baddegi, Enagi and Maikunkele which ranked higher in terms of infrastructure provision than their population sizes. The possible explanation for this may not be unconnected with the fact that some of the settlements were administrative headquarters of their local government areas, while some were strategically located along major federal roads thereby attracting investments in infrastructure.

Table 2: Settlements by Population Size and Infrastructural Scores

	Settlements	Population	Score
i.	Agwara	3,743	53
ii.	Baddegi	6,700	79
iii.	Bangi	7,177	39
iv.	Doko	14,774	102
v.	Enagi	7,557	53
vi.	Gawu	10,859	70
vii.	Gbajibo	7,083	18
viii.	Gulu	4,411	38
ix.	Kuta	15,966	150
x.	Kutiriko	3,973	34
xi.	Lemu	3,743	46
xii.	Maikunkele	6,680	85
xiii.	Mashegu	1,675	27
xiv.	Nasko	3,015	29
xv.	Paiko	18,436	139
xvi.	Rafin Gora	8,787	22
xvii.	SabonWuse	7,614	68
xviii.	SarkinPawa	7,984	48
xix.	Tegina	5,981	42
xx.	TungaMagajiya	12,171	38
xxi.	Wawa	7,942	42
xxii.	Wushishi	13,243	88

Source: Author's fieldwork 2011

Concentration of Infrastructure in the Selected Rural Settlements

Location Quotient (LQ) technique was employed to determine the degree of concentration of infrastructure in the selected settlements in the study area. However, as suggested by Adebayo and Ifabiyi (1999) and Madu (2007), population was used to determine the LQ in this study instead of the areal extent since the facilities were meant to serve people. The interpretation of the result of the LQ as shown in Table 2 is that an LQ equal to or exceeding 1 indicates that the settlement has achieved a comparatively more significant level of availability of infrastructure, while an, LQ less than I indicates that the settlement is disadvantaged.

Table 3: Infrastructural Scores in Descending Order and Corresponding LQ Values for the Selected Settlements

	Settlements	Score	LQ
i.	Kuta	150	1.28
ii.	Paiko	139	1.03
iii.	Doko	102	0.94
iv.	Wushishi	88	0.91
v.	Maikunkele	85	1.74
vi.	Baddegi	79	1.61
vii.	Gawu	70	0.88
viii.	SabonWuse	68	1.25
ix.	Agwara	53	1.94
x.	Enagi	53	0.96
xi.	SarkinPawa	48	0.82
xii.	Lemu	46	1.68
xiii.	Tegina	42	0.96
xiv.	Wawa	42	0.72
xv.	Bangi	39	0.74
xvi.	Gulu	38	1.18
xvii.	TungaMagajiya	38	0.42
xviii.	Kutiriko	34	1.17
xix.	Nasko	29	1.31
xx.	Mashegu	27	2.20
xxi.	Rafin Gora	22	0.34
xxii.	Gbajibo	18	0.34

Source: Author's fieldwork, 2011

Table 3 shows the scores of the settlements in terms of availability of infrastructure and the corresponding values of the LQ. It can be seen from the Table that disparity exists among the rural settlements. The study revealed that in terms of infrastructural scores (i.e. Availability of infrastructure) Kuta, Paiko, Doko, Wushishi, Maikunkele and Baddegi were the leading settlements while TungaMagajiya, Rafin Gora and Gbajibo were the least developed settlements. However, in terms of the values of Location Quotient (LQ), eleven settlements have LQ value of 1 and above while eleven settlements have LQ value of less than 1. These are shown in Table 3 and Figure 2.The distribution of LQ values of the selected settlements in the study area are shown in Figure 2.

The study as shown in Table 3 revealed that the eight settlements out of eleven settlements with LQ value of 1 and above, were administrative headquarters of their local government areas. These include Mashegu, Agwara, Maikunkele, Lemu, Nasko, Kuta, SabonWuse and Paiko. The likely reason for this many not be unconnected with investments in infrastructure such as schools, clinics, boreholes, roads, banks, markets and so on in these settlements. An interesting revelation from study as shown in Table 3 is the settlement of Mashegu with LQ of 2.20 which indicates that the settlement has more than its fair share of the facilities. However, a closer examination shows that its corresponding infrastructural score of 27 is low. The possible reason for this may not be inconnected with small population size (i.e 1,675) of the settlements and

administrative advantage of being the headquarters of Mashegu local government area.

Another important revelation from the study as shown in Table 2 is that out of the eleven seetlements that have LQ value of less than 1, there were five settlements that were headquarters of their local government areas. These include Enagi, Wushishi, GawuBabangida, SarkinPawa and Bangi. This indicates that these settlements had large population sizes compares to the number of available infrastructure. The policy implication of this is that concerted efforts should be made to increase number of infrastructure in these settlements. Other settlements with LQ value of less than 1 include Tegina, Doko, Wawa, TungaMagajiya, Rafin Gora and Gbajibo. The interpretation of this is that these settlements do not have fair share of infrastructure compared to their corresponding population sizes. For example, Doko with population of 14,774 and infrastructural score of 102 as shown in Table 2.The possible explanation for other settlements may not be unconnected with the fact that their location were far from the headquarters of their respective local government area. For example, Gbajibo is located in a remote part of Mokwa local government area. The policy implication of this is the need by the government to reduce the friction of distance through provision of accessible roads to these settlements.

Table 4: Location Quotient (LQ) values of the Selected Settlements Arranged in Descending Order

Settlement	LQ
i. Mashegu	2.20
ii. Agwara	1.94
iii. Maikunkele	1.74
iv. Lemu	1.68
v. Baddegi	1.61
vi. Nasko	1.31
vii. Kuta	1.28
viii. S. Wuse	1.25
ix. Gulu	1.18
x. Kutiriko	1.17
xi. Paiko	1.03
xii. Enagi	0.96
xiii. Tegina	0.96
xiv. Doko	0.94
xv. Wushishi	0.91
xvi. Gawu	0.88
xvii. S. Pawa	0.82
xviii. Bangi	0.74
xix. Wawa	0.72
xx. T. Magajiya	0.42
xxi. R. Gora	0.34
xxii. Gbajibo	0.34

Source: Author's fieldwork, 2011

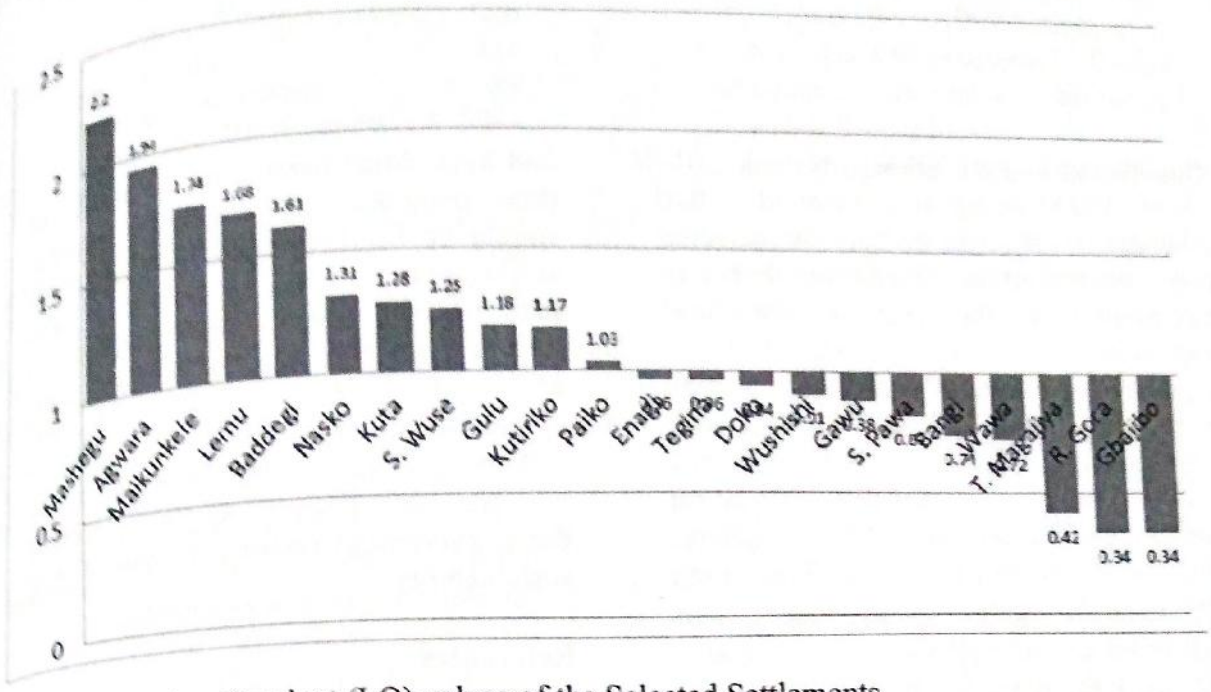

Figure 2: Location Quotient (LQ) values of the Selected Settlements
Source: Author's fieldwork, 2011

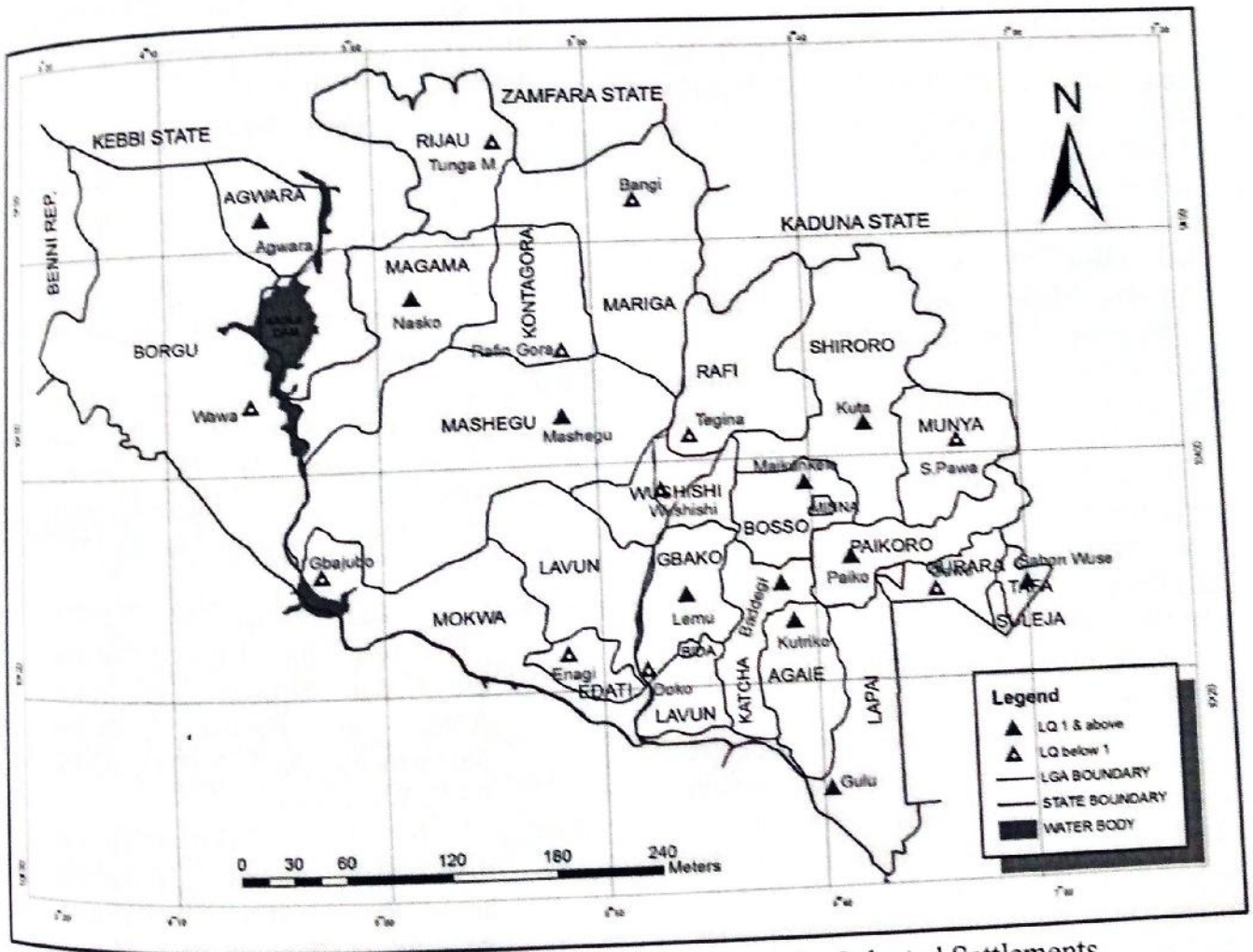

Figure 3: Distribution of Location Quotient (LQ) Values of the Selected Settlements
Source: Ministry of Land and Housing Minna and Author's fieldwork, 2011.

Conclusion and Recommendations

The study discovered that availability of infrastructure in selected rural settlements in Niger State seems to be related to the size of the rural settlements. For instance, Paiko, Kuta, wushishi and GawuBabangida ranked high in both population size and infrastructural score. Spearman Ranks correlation (rs) of r = 0.553 indicates a positive correlation between population size and infrastructure. This was observed to conform with Christallers's central place theory that high-order centre supply a variety of goods and services, have larger population and support more establishments than low-order centres.

The result of the Location Quotient (LQ) that was employed to determine the degree of concentration of infrastructure in the selected settlements revealed that disparity exists among the settlements. It is interesting to note that, in term of values of LQ eleven settlements have LQ value of 1 and above while eleven settlements have LQ value of less than 1. Mashegu, Agwara, Maikunkele, Lemu and Baddegi were some of the leading settlements with LQ value of more than 1, while Gbajibo, Rafin Gora and TungaMagajiya were some of the least settlements with LQ value of less than 1. The interpretation is that those settlements with LQ value of I and above had achieved a comparatively more significant level of infrastructural development while those settlements with LQ value of less than 1 indicates that they were disadvantaged.

There is the need for government to enter into partnership with rural communities in the management of rural infrastructure. This would make the government and its agencies to governments should put in place deliberate efforts to change policies concerning to be closer to rural community problems in infrastructure provisions. Consequently, thestate and local development of infrastructure by ensuring an increase in the level of participation of rural communities in development projects that have direct bearing on the welfare of rural populace. The rural communities should be involved right from the needs assessments stage, priority need identification, project implementation as well as monitoring and evaluation. By this, according to Atser (2008), the rural communities will have a sense of ownership in government projects, as they will see such projects as theirs, thereby doing everything possible to ensure their sustainability.

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WEIGHTED SCORES OF INFRASTRUCTURE AND OTHER FACILITIES IN THE SELECTED RURAL SETTLEMENTS OF NIGER STATE

	Agwara	Badeggi	Bangi	Doko	Enagi	Gawu	Gbajibo	Gulu	Kuta	Kutiriko	Lemu	
INFRASTRUCTURE												TOTAL
1 General Rural Hospital	0	4	4	0	0	4	0	0	4	4	4	24
2 Comprehensive Health Centre	3	3	3	3	3	0	3	0	3	0	0	21
3 Clinic	0	2	0	2	0	2	0	2	4	2	2	16
4 Dispensary	1	0	1	0	0	0	0	0	0	0	0	2
5 Tertiary Institution	0	0	0	0	0	0	0	0	0	0	0	0
6 Secondary School	2	2	2	4	2	4	2	4	8	2	4	36
7 Primary School	4	3	3	6	4	3	2	4	8	2	4	43
8 Public Taps	0	2	0	2	2	4	0	0	2	2	2	16
9 Public Boreholes	5	6	2	10	6	6	1	2	22	5	5	70
10 Availability of Electricity	0	3	0	3	3	3	3	3	3	3	3	27
11 Express/Federal Road	0	4	4	0	4	4	0	0	0	0	4	20
12 Tarred State Road	0	0	0	3	3	3	0	0	3	0	0	12
13 Tarred Local Govt. Road	0	0	0	0	0	0	0	0	0	0	0	0
14 Un-tarred Road	1	1	1	1	1	0	1	1	1	1	1	10
OTHER FACILITIES												
15 Local Govt. Secretariat	3	0	3	0	3	3	0	0	3	0	3	18
16 Magistrate Court	0	2	0	4	2	2	0	0	2	0	0	12
17 Sharia Court	1	1	0	1	1	1	0	1	0	1	1	8
18 Police Station	2	2	2	2	2	2	0	0	2	0	0	14
19 Police Post	0	0	0	1	0	0	1	1	0	1	1	5
20 Sub treasury	0	0	0	0	0	0	0	0	3	0	0	3
21 Veterinary Clinic	2	0	0	2	0	0	0	0	2	0	0	6
22 Extension Service	0	1	0	1	0	0	0	0	1	0	0	3
23 Fishery Post	0	0	0	0	0	0	0	0	0	0	0	0
24 Saw mill	1	1	1	1	1	0	0	0	3	0	0	8
25 Food Processing	0	1	0	3	0	0	0	1	4	0	1	10
26 Bakery	4	6	0	4	0	2	0	4	8	2	0	30
27 Commercial Bank	3	3	0	0	0	0	0	0	3	0	0	9
28 Agric Bank	0	0	0	0	0	0	0	0	0	0	0	0
29 Micro Finance	1	1	0	1	1	1	0	0	0	0	1	6
30 Petrol Station	0	4	2	6	2	6	0	2	6	0	2	30
31 Market	2	2	2	2	2	2	2	2	2	2	2	22
32 Hotel/Guest House	0	0	0	0	3	0	0	0	0	0	0	3
33 Civic Centre	0	0	0	2	0	0	0	0	4	0	0	6
34 Village hall	1	0	0	1	0	1	0	0	2	0	0	5
35 T V Centre	2	4	0	8	2	0	0	0	20	0	0	36
36 Restaurant	2	2	0	12	0	0	0	0	10	0	0	26
37 Central Mosque	3	6	3	3	3	3	3	3	6	3	3	39
38 Church Building	5	5	0	4	1	4	0	2	3	0	1	25
39 GSM Mast	2	4	4	6	2	8	0	4	4	0	2	36
40 Post Office	0	2	0	2	0	0	0	0	2	0	0	6
41 Postal Agency	1	0	0	0	0	0	0	0	0	0	0	1
42 Motor Park	2	2	2	2	0	2	0	2	2	4	0	18
Total	**53**	**79**	**39**	**102**	**53**	**70**	**18**	**38**	**150**	**34**	**46**	

	Maikunkele	Mashegu	Nasko	Paiko	R. Gora	S. Wuse	S. Pawa	Tegina	T. Magajiya	Wawa	Wushishi	TOTAL
INFRASTRUCTURE												
1. General/Rural Hospital	4	0	4	0	0	4	4	0	4	0	4	24
2. Comprehensive Health Centre	0	3	0	3	0	3	0	0	0	0	0	9
3. Clinic	2	2	0	4	2	0	4	2	0	4	2	22
4. Dispensary	0	0	0	0	1	0	0	0	0	1	0	2
5. Tertiary Institution	0	0	0	0	0	0	0	0	3	0	0	3
6. Secondary School	4	2	2	6	2	4	2	2	6	4	2	36
7. Primary School	3	2	2	6	1	4	4	4	5	4	6	41
8. Public Taps	0	0	0	2	0	2	0	2	0	0	4	10
9. Public Boreholes	8	2	4	10	1	9	6	4	2	2	4	52
10. Availability of Electricity	3	0	3	3	3	3	3	3	3	3	3	30
11. Express/Federal Road	4	0	0	4	4	4	4	4	4	4	4	36
12. Tarred State Road	3	3	3	3	0	0	3	0	0	0	3	18
13. Tarred Local Govt. Road	0	0	0	0	0	0	0	0	0	0	0	0
14. Un-tarred Road	1	1	1	1	1	1	1	1	1	1	1	11
15. OTHER Facilities												
16. Local Govt. Secretariat	3	3	3	3	0	3	3	0	0	0	3	21
17. Magistrate Court	2	2	0	0	0	2	0	0	0	2	0	8
18. Sharia Court	1	0	0	1	0	1	1	0	0	0	0	4
19. Police Station	2	2	2	2	2	2	2	2	2	2	2	22
20. Police Post	0	0	0	1	0	0	0	0	0	0	1	2
21. Sub treasury	0	0	0	0	0	0	0	0	0	0	0	0
22. Veterinary Clinic	0	0	0	2	0	0	0	0	0	0	0	2
23. Extension Service	0	0	0	0	0	0	0	0	0	0	0	0
24. Fishery Post	0	0	0	0	0	0	0	0	0	0	0	0
25. Saw mill	1	0	0	4	0	0	0	0	0	0	0	0
26. Food Processing	1	0	0	0	0	0	0	0	0	1	1	3
27. Bakery	4	0	0	12	0	0	0	0	0	0	0	16
28. Commercial Bank	0	0	0	3	0	0	0	0	0	0	3	6
29. Agric Bank	0	0	0	2	0	0	0	0	0	0	2	4
30. Micro Finance	1	0	0	1	0	1	1	0	0	0	0	4
31. Petrol Station	4	0	0	6	0	10	0	8	0	0	6	34
32. Market	2	2	2	4	2	2	2	2	2	2	2	24
33. Hotel/Guest House	0	0	0	3	0	0	0	0	0	0	0	3
34. Civic Centre	0	0	0	0	0	0	0	0	0	0	0	0
35. Village hall	0	0	0	1	0	0	0	0	0	0	0	1
36. T.V Centre	8	0	0	8	0	4	0	2	0	0	4	26
37. Restaurant	2	0	0	0	0	0	0	0	0	0	10	12
38. Central Mosque	6	3	3	3	3	3	3	3	3	3	3	36
39. Church Building	6	0	0	13	0	2	1	1	1	1	3	28
40. GSM Mast	8	0	0	20	0	4	4	2	2	4	10	54
41. Post Office	0	0	0	2	0	0	0	0	0	0	2	4
42. Postal Agency	0	0	0	0	0	0	0	0	0	1	0	1
43. Motor Park	2	0	0	6	0	0	0	0	0	2	2	12
Total	**85**	**27**	**29**	**139**	**22**	**68**	**48**	**42**	**38**	**42**	**88**	