Assessment of the Relationships Between Infrastructural Development and Residents' Level of Satisfaction in Six States Capitals in the South-South of Nigeria.

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Abstract: This study assessed the relationships between infrastructural development and residents' level of satisfaction in the south-south of Nigeria. The study adopted the cross-sectional research design and copies of questionnaire were used to collect data from respondents in six state capitals including; Benin City, Asaba, Yenagoa, Port-Harcourt, Uyo and Calabar on a 4–point ordinal rating scale. The Taro-Yamane assumption was used to determine the sample population and sample size for the study became 2380 respondents. Data was presented in tables and simple percentages and the Spearman's rank correlation co-efficient model was used for data analysis. Analyses were carried out using the data collected from the three (3) basic indices of political stability, environmental quality, and environmental safety. Findings were that: environmental safety is poor at (47%), this is followed by low with 25.60% while environmental quality across the cities shows a high rate at 33.23% of the total. Low and very low shared 29.72% and 30.6% respectively. While political stability also shows high at 47.% of the total with low and very low also sharing 27% and 16% respectively. The analysis result of the hypothesis shows high correlation as Benin correlated with Asaba with a co-efficient of 0.692%, (P-value <5%) and Asaba correlated with Calabar 0.691 and Uyo also correlated with Calabar at 0.695 (P-value < 5%) thus, the null hypothesis was rejected. Thus, it was concluded that the cities lacked adequate infrastructural development coupled with poor governance for a stable and safe environment. It was therefore recommended that the government should try to improve on the quality of the urban environment, basic public infrastructure, should as a matter of urgency be improved on etc.

Key words: Liveability, Infrastructure, South-South, satisfaction and QOL (quality of life).

1. Introduction

Jiboye 2011), has asserted that the spate of rising urban population and urban mobility, cities all over the world are experiencing over population and governments are now being faced with inability to expand the urban carrying capacity which has manifested in increasing urban poverty, inequality, lack of basic social amenities etc. hence liveability, quality of life and sustainable development have become important topical issues of discourse in urban and regional planning.

Meriam-Webster (2011) defines liveability broadly as: "suitability for human living", and quality of life refers to the general well-being of individuals living in a society. Going by the Economist Intelligence Unit's (EIU) (2002) liveability ranking and Mercer's Worldwide quality of living (Survey) Report (2010) and Partnership for Liveable Communities, (2009), reveal that liveability standards for urban centres in Nigeria especially those of the study area, fall far below the recommendations and survey reports on liveability factors, objectives, principles, indicators and ranking standards.

For instance, Partnership for liveable communities, (2011) identifies six liveability principles such as: affordable housing, increase in transportation options, lower transportation costs, protection of the environment, promote equitable development, addressing the challenges of climate in communities nation-wide. Yet none of these liveability principles have been improved on in the study area although urban population continues to grow.

In a similar development, United Nations habitat (2008) stated that 14% of Africa's population lived in the urban centres as of 1950. This continued to rise since then and by the year 2000 it had risen to 37.2% and it is still rising. Furthermore in Nigeria the city of Lagos had only 665000 as of 1963 (Rakodi, 1992) this became 8.9million by year 2000. Figures presented by the population census of 2006 shows that the population of Lagos had risen to 9 million (Nigerian population commission, 2006).

The fact is that as the population of these cities continues to rise due to some 'push' factors (harsh socio-economic conditions in the rural and sub-urban areas, political and social injustice etc) and 'pull' factors (perceived availability of jobs, anticipated

improved social life, perceived improvement in the provision of basic social amenities etc), which pulls people to the cities and there is no corresponding improvement in the provision of social infrastructures, it will have negative impacts on the life of the city dwellers (Jiboye, 2011).

Furthermore, the following have been listed as factors responsible for the non-provision of adequate and conducive environment for city dwellers in the study area: endemic corruption; lack of provision of affordable housing by the various urban councils; poor environmental quality; properly planned cities etc. However the overall effect of the non-provision of adequate and conducive environment for city dwellers include, spread of diseases like diarrhoea, respiratory infection, tuberculosis, and meningitis (UN-Habitat, 2006).

Several studies (Sesai, 2002; Mabogunje & Robert, 2004; Gille, 2011) have however suggested that, massive urban regeneration was required to enhance urban liveability status in Nigerian cities and give residents some good feel of basic livelihood amenities. UN (2004); Jiboye (2011) dealt extremely with Urban sustainability via good governance. UNCHS (2007), Daramola & Ibem (2011), Jiboye (2011) works centred on "Increasing Global Urbanization and the Challenge for Increased Housing Infrastructure" to tackle the housing needs as a means of sustainable development. In the South-South of Nigeria, Okodudu-Onuigbo, (2008) worked on Liveability of Residential Areas in Nigerian Urban Centres, a case study of Port Harcourt Metropolis.

The study centred on the Government Reserved Area (GRA) in Port Harcourt city, and since there has been no other work carried out by any other on liveability status/ QOL of any urban centre in the South-South zone of Nigeria. Hence this work is set out to study the relationships liveability between and among the entire population between people's (residents') perception of liveability status not only of Port Harcourt city but the entire capital cities of the six states of the South-South of Nigeria. The study also stretched out to idealise the relevance of all other works have assessed this phenomenon in various parts of the world at various scales but no such comprehensive work has covered six state capitals, hence this study. This study is relevant in so much that it would be useful for urban and regional planners, Architects, civil engineers and city mayors.

It would also be useful to transportation planners and engineers, budgetary experts and economic administrators. The outcome of that study could be used to trigger further research efforts as a road map for determining the liveability status, quality of life, level of satisfaction and any other indices that impacts on residents of any city.

1.2 Materials and Method

This study was carried out in six cities of Nigeria and they include Benin City, Yenagoa, Calabar, Port-Harcourt, Uyo and Asaba. Benin City is the capital of Edo State and the 2006 National Population Census puts the population of the cities at 3629,646. See figure 1 and table 1 respectively below.
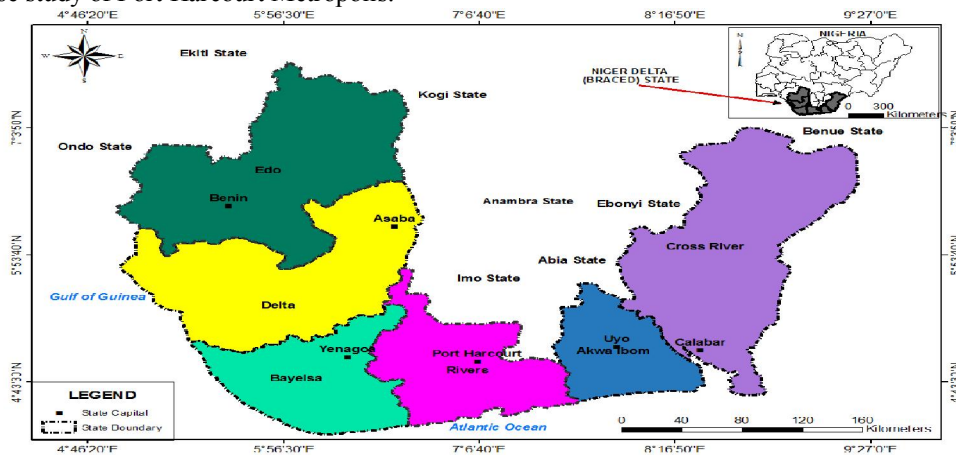
Figure 1: Map Showing Study Area; *Source*: Digitized from NASRDA Map, 2010.

In terms of methods of study the study adopted the cross-sectional survey research design and copies of questionnaire were used to collect data from respondents in the six state capitals (Benin City, Asaba, Yenagoa, Port-Harcourt, Uyo and Calabar) of interest.

To efficiently distribute the questionnaire among respondents, the populations of the six state capitals were first projected from the known 2006 population census figures to 2014 using growth rates of 2.7(Benin City), 3.2(Asaba), 2.9(Yenagoa), 3.4(Port-Harcourt), 3.4(Uyo), and 2.9 (Calabar respectively). See table 1 below:

Table 1: 2006 Population Census and the Projected Figures to 2014.

S/N	State	Capital	2006 Census Figures	Growth Rate	(2014) Projected Population
1	Edo	Benin city	1,147,188	2.7	1,419,702
2	Delta	Asaba	149,603	3.2	192,475
3	Bayelsa	Yenagoa	24,335	2.9	30,588
4	Rivers	Port-Harcourt	1,382,572	3.4	1,806,585
5	Akwa- Ibom	Uyo	554,906	3.4	725,075
6	Cross-rivers	Calabar	371,022	2.9	465,174
Totals			3,629,646		4,639,599

Source: author's field work, (2015). Note: The growth rate is drawn from the National Demographic and Housing Survey (NDHS report 2010)

In a bid to derive the sample from the projected household population, the Taro-Yamane's model was applied to the household figures and it trimmed it down to 2,380.

And that was the population contacted with copies of questionnaire in this study. See table No 2 below:

Table 2: Projected figures and the Taro-Yamane values for the sample sizes of the various state capitals.

S/N	State	Capital (urban centre)	Projected 2014 Census figs	Household Population	Taro-Yamane's reduction	Urban order by population size
1	Edo	Benin city	1,419,702	322,659	399	2nd
2	Delta	Asaba	192,475	43,744	398	5th
3	Bayelsa	Yenagoa	30,588	6,962	386	6th
4	Rivers	Port Harcourt	1,806,585	410,587	399	1st
5	Akwa Ibom	Uyo	725,075	164,790	399	3rd
6	Cross River	Calabar	465,174	105,721	399	4th
	Totals		4,639,599	1,054,453	2,380	

Source: Author's field work, (2015)

After the projection had been done the Taro-Yamane mode as expressed in Baridam (1995) equation one was used to determine the sample population. Thus the sample size for the six cities put together became 2380 respondents.

However to analyze the data, the data was first presented in tables and the simple percentages was used to determine the direction of the respondents' perception of the relationships between infrastructural development, liveability status and their level of satisfaction for living in their respective capitals.

1.3   Presentation of Data
From the table 3 above shows that a total of 2,380 copies of questionnaire were distributed and the total copies of questionnaire returned were 2,197.

The questionnaire was constructed to incorporate 11 liveability indices relative to the study area. But those concerned with this work are environmental safety, environment quality and political stability, and together whether or not residents were satisfied living in their respective cities.

Table 3: Number of questionnaire copies distributed and retrieved.

State	Capital	No. Dist.	No. Ret.	%
Edo	Benin City	379	368	97.10
Delta	Asaba	379	361	95.25
Bayelsa	Yenagoa	379	366	96.57
Rivers	PH	379	363	95.78
Akwa-Ibom	Uyo	379	370	97.62
Cross-River	Calabar	379	369	97.36
Totals		2,380	2,197	92.31

The followings are data collected from the residents which covered their socio-economic characteristics as age, sex and occupation. Then follows responses in the indicators selected to achieve the objectives of the study and to test the hypothesis.

1.4   Socio – Economic characteristics of Respondents
From the table above the age bracket of 18-48 years recorded the greatest number, to whom the questionnaire copies totalling 1,182 were distributed, which represents 53.8% of the entire total. This is followed by brackets of 49-69 years and 70 years above with 26.08% and 20.11 respectively.

Table 4.1: *Age Distribution of Respondents*

State Capitals	18- 48 Years		49 – 69 Years		70 and above		Total Returned
	Frequency	%Percentage	Frequency	%	Frequency	%	
Benin	198	53.80	96	26.01	74	20.11	368
Asaba	196	54.30	94	20.04	71	19.67	361
Yenagoa	197	53.82	95	25.96	74	20.22	366
Port Harcourt	196	54.0	95	26.17	72	19.83	363
Uyo	198	53.01	96	25.94	76	20.54	370
Calabar	197	53.40	97	26.29	75	20.32	369
Totals	1,182		573		442		2,197
% Totals	53.80		26.08		20.11		100

Source: Author's Field Work (2015).

Table 4.2: Sex Distribution of Respondents

State Capitals	Males		Females		Total Returned
	Freq.	%	Freq.	%	
Benin	216	58.70	152	41.30	368
Asaba	196	54.30	165	45.70	361
Yenagoa	220	60.11	146	39.89	366
PH	215	59.23	148	40.77	363
Uyo	234	63.24	136	30.76	370
Calabar	241	65.31	128	34.69	369
Totals	1,322		875		2,197
% Totals	60.17		39.82		100

Source: Author's Field Work (2015).

On sex distribution, more males of 1,322 representing 60.17% of the total population is shown on the table while their female counterparts are 875 representing the remaining figure of 39.82%.

In essence, there are more males than females in the household population of the six state capitals in the study area.

Table 4.3: Occupation distribution of respondents

State Capitals	Civil Servants		Politicians		Business/Traders		Total Returned
	Frequency	%	Frequency	%	Frequency	%	
Benin	130	35.32	28	7.61	201	54.62	368
Asaba	118	32.68	18	4.99	225	62.32	361
Yenagoa	128	34.97	20	5.46	218	59.56	366
Port Harcourt	160	44.08	60	16.53	143	39.39	363
Uyo	140	37.84	31	18.38	199	53.78	370
Calabar	252	68.30	12	3.25	105	28.45	369
Totals	928		169		1,100		2,197
% Totals	42.24		7.69		50.07		100

Source: Author's field work, (2015).

In table 6 above, the occupation distribution of respondents are displayed. From the table 42.24% are civil servants, only 7.69% are politicians, while 50.07% are business men and traders.

1.5   Method of Data Analysis

The followings are tables of responses from the households which were converted into percentages from the 4-point ordinal scale to make it amendable to statistical analysis. They are three (3) indices of environmental quality, environmental safety and political stability. The statistical tool used for analyzing this data is the Spearman's rank correlation co-efficient instrument (rs) of the form.

$$rs = 1 - \frac{6\Sigma d^2}{N(N^2)}$$

Where Σd^2 = sum of the squared differences in the ranking of the subjects or indices on the two variables.

N = Number of subjects (indices) being ranked.

1.5.1 Hypothesis Testing: The null hypothesis (H_0) for this study is stated as follows:

H_0: There is no significant relationship between residents level of satisfaction and infrastructural development which ensures.

Political stability, environmental safety and quality in the study area H_1: There is!

Table 5: Residents' perception on environmental quality.

State Capitals	Liveability Index	Liveability Rating Scale				
		Very High	High	Low	Very low	Total
Benin	Environmental Quality	12 (3.26)	23 (33.82)	68 (18.48)	265 (72.01)	368
Asaba		11 (3.05)	131 (36.29)	175 (48.47)	44 (12.19)	361
Yenagoa		0 -	23 (6.28)	67 (18.31)	276 (75.41)	366
Port Harcourt		30 (8.26)	91 (25.07)	210 (57.85)	32 (8.81)	363
Uyo		35 (9.46)	266 (71.9)	35 (9.46)	34 (9.19)	370
Calabar		54 (14.63)	196 (53.12)	98 (26.56)	21 (5.7)	369
Totals Percentage Totals		142 (6.46)	730 33.23	653 29.72	672 30.6	2197

Source: Author's field work, (2015). Note: figures in parentheses are percentages.

On environmental quality, table 13 reveals that it is high with a percentage response rate of 33.23% of the total low and very low shared 29.72 and 30.6% respectively, while very high is least with 6.46%. In this case, Uyo has the best environmental quality (71.9%) followed by Calabar with 53.12%. these poor environments make life unbearable for the inhabitants of the cities, by inflicting diseases on the people there since the quality of the environment is very poor.

Table 6: Residents' perception of environmental safety

State Capitals	Liveability Index	Liveability Rating Scale				
		Very High	High	Low	Very low	Total
Benin	Environmental Safety	34 (9.24)	226 (60.32)	89 (24.18)	23 (6.25)	368
Asaba		33 (9.14)	286 (79.22)	21 (5.82)	21 (5.82)	361
Yenagoa		12(3.28)	34 (9.29)	232 (63.39)	88 (24.04)	366
PortHarcourt		- -	30 (8.26)	80 (22.04)	253 (69.69)	363
Uyo Uyo		76 (20.54)	241 (65.13)	53 (14.32)	- - -	370
Calabar		32 (8.67)	218 (59.08)	87 (23.58)	32 (8.67)	369
TotalsPercentage Totals		1878.5%	1,03147.0%	56225.6%	41719%	2197

Source: author's field work, (2015). Note: figures in parentheses are percentages

On environmental safety, table 14 reveals that it is high with 47% of the entire total percentage responses. This is followed by low with 25.60% while very low and very high recorded 19% and 8.50 respectively. In the area of high which the respondents showed, Asaba recorded highest with 79.22% followed by Uyo (65.13%). The next is Benin with 60.32%, while Calabar had 59.08%. As for low which follows responses for high, Yenagoa recorded highest with 63.39%. Whilst on the very low side Port Harcourt recorded the highest with 69.69%.

Table 7: Households' liveability perception on political stability in the study area

State Capitals	Liveability Index	Liveability Rating Scale				
		Very High	High	Low	Very low	Total
Benin	Political Stability	45 (12.23)	254 (69.02)	57 (15.48)	12 (3,26)	368
Asaba		45 (12.19)	230 (63.71)	65 (18.00)	22 (6.10)	361
Yenagoa		- -	89 (24.32)	210 (57.38)	67 (18.31)	366
Port Harcourt		0 -	32 (8.81)	86 (23.7)	245 (67.5)	363
Uyo		86 (23.24)	252 (67.49)	32 (8.81)	-	370
Calabar		43 (11.65)	174 (47.15)	142 (38.48)	10 (2.71)	369
Totals Percentage Totals		218 10	1031 47	592 27	356 16	2197

Source: Author's Field Work (2015). Note: figures in parentheses are percentages

The table No 7 above shows that there is high political stability in the study area with the perception responses recording 47% of the total for high. This is followed by low with 27% while very low and low recorded 16% and 10% respectively. Political stability is highest in Benin (69.02%) and Uyo (67.49%) followed by Asaba (63.71%).

Table 8 Spearman rank's correlation analysis result using the 3 indices aboveCorrelations			Benin	Asaba	Yenagoa	PH	Uyo	Calabar
Spearman's rho	Benin	Correlation Coefficient	1.000	.692*	.499	-.136	.524	.508
		Sig. (2-tailed)	.	.013	.099	.674	.081	.092
		N	12	12	12	12	12	12
	Asaba	Correlation Coefficient	.692*	1.000	.076	-.081	.551	.691*
		Sig. (2-tailed)	.013	.	.815	.802	.063	.013
		N	12	12	12	12	12	12
	Yenagoa	Correlation Coefficient	.499	.076	1.000	.448	-.364	-.077
		Sig. (2-tailed)	.099	.815	.	.144	.244	.812
		N	12	12	12	12	12	12
	PH	Correlation Coefficient	-.136	-.081	.448	1.000	-.524	-.123
		Sig. (2-tailed)	.674	.802	.144	.	.080	.703
		N	12	12	12	12	12	12
	Uyo	Correlation Coefficient	.524	.551	-.364	-.524	1.000	.695*
		Sig. (2-tailed)	.081	.063	.244	.080	.	.012
		N	12	12	12	12	12	12
	Calabar	Correlation Coefficient	.508	.691*	-.077	-.123	.695*	1.000
		Sig. (2-tailed)	.092	.013	.812	.703	.012	.
		N	12	12	12	12	12	12 12
*. Correlation is significant at the 0.05 level (2-tailed).*Source: Author's computation (2015).*								

Table 9: Assessment result of the relationships in percentages across the six state capitals.

city	assessment indices (1 – 3)			order of ranking		
	1 – Liveability Status	2 – Residents' Satisfaction	3 – Ranking	1	2	3
Benin City	Low@ 68.48%	V/Low@ 66.85%	High@ 28.53%	3rd	5th	5th
Asaba	V/Low@ 58.17%	Low@ 68.14%	High@ 37.41%	6th	3rd	4th
Yenagoa	Low@44.26%	V/Low@ 60.93%	V/Low@ 30.87%	4th	4th	6th
Port Harcourt	V/Low@ 50.41%	V/Low@ 69.97%	High@ 42.42%	5th	6th	3rd
Uyo	High @ 54.59%	High@ 75.68%	High@ 50.27%	1st	1st	1st
Calabar	High@ 46.34%	High@ 39.29%	High@ 44.17%	2nd	2nd	2nd

Source: Author's computation and ranking (2015).

1.6 Discussion of Result

The analysis result shows that Benin correlated significantly with Asaba with correlation-coefficient of 0.692 (P-value < 5%).

Asaba correlated with Calabar at 0.695 (P-value < 5%). While Uyo also correlated significantly with Calabar with correlation-coefficient of 0.695 (P-value < 5%) thus the null hypothesis (H_0) was rejected.
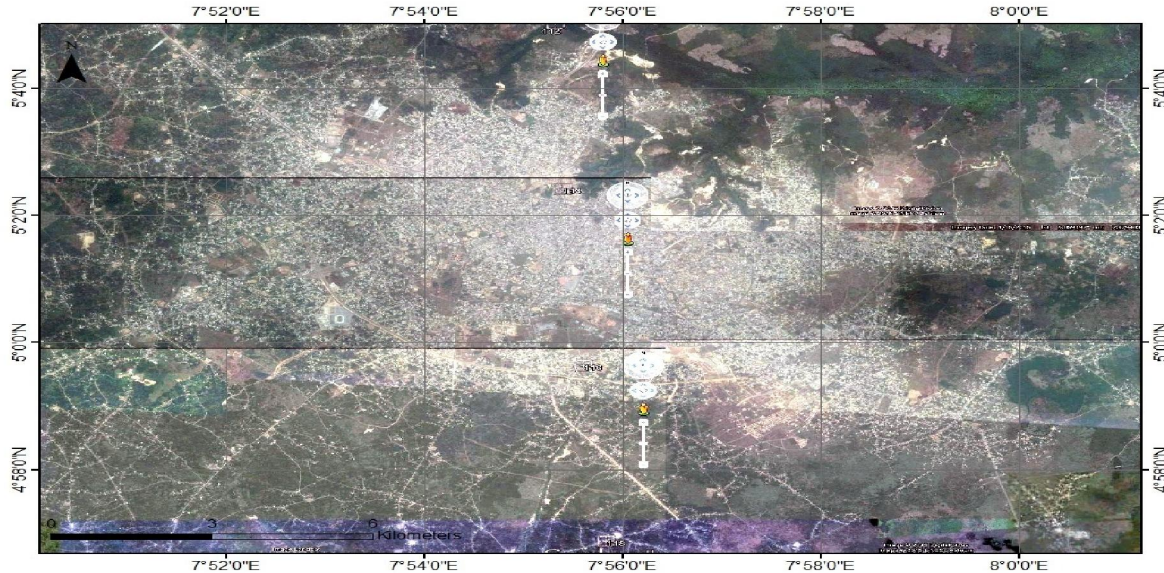
Plate 1: Google satellite imagery of Uyo metropolis

Plate 2: Spot photograph of Uyo metropolis.

1.7   Conclusion and Recommendation

This study assessed the relationships between infrastructural development and resident's perception of liveability status with regards to their level of satisfaction in six major cities of Nigeria. It was found that infrastructural development was generally poor and unable to satisfy the need of the urban population which has continued to rise due to the perceived urban economic viability. The non-provision of these basic infrastructure for the inhabitants of the cities have made the place harsh for them to inhabit. As a remedy to these problems the following have been recommended:

1. The government should try to improve on the quality of the urban environment by always ensuring good air quality, control level of pollution and provide safe, potable drinking water; adequately and properly pumped, recycled, reserved and regularly reticulated into industrial and residential quarters so that there can be improvement in the QOL of residents in the study area.

2. Basic public infrastructure such as hospitals; schools; housing; markets etc, should as a matter of urgency be improved on by government. Existing ones should be maintained and periodically monitored to ensure their functionality. Vandalism, breakdown and abandonment of any of the facility must be promptly reported and actions taken promptly to rectify and police such facilities so that the quality of life of the urban residents can be improved on.

3. Government should try to apply the UN guidelines for good governance by being accountable, democratic, allow peoples' participation, ensure equity and always apply the rule of law at all times, especially in budgetary allocation and facilities distribution.

4. There should be a firm policy formulation, implementation and enforcement of rules and regulations to ensure proper development control, and effective land use in design and planning of the urban centres, to enhance liveability and QOL standards.

5. Government should put in place an effective human and vehicular influx (migration) control mechanism to check excessive rural, urban and intercity migration into cities, which poses a great challenge to environmental quality, proper urban planning and regeneration which are required to enhance the QOL (Quality of Life) of residents of those cities especially in the study area.

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