# **R**esidents' Satisfaction with Adequacy of Facilities in Metropolitan Ibadan, Nigeria

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**ABSTRACT:** The study examined the quantity and quality of infrastructure in Ibadan, Nigeria with a view to using information to providing policy guidelines for sustainable infrastructural development. Using stratified sampling technique, a total of fifteen wards from the five local government areas in Ibadan metropolis were selected for study. The selection of all the local government areas is based on the fact that all of them cut across all the residential zones in the metropolis and them all spatially coverage at the centre of the city. Primary data for the study were collected through the questionnaire administered on 1,035 respondents (2% of household heads in all the residential buildings in the metropolis), using systematic sampling technique. Descriptive and inferential statistics were employed to analyse the data obtained. Findings showed that deviations about the mean of the satisfaction index of the facilities such as church and dispensary were higher than their respective FAI. Furthermore, findings revealed that these infrastructural facilities were very adequate to the residents, but the residents were not satisfied with their adequacy in the study area. These facilities were mosque, nursery/primary school and secondary school. This implied that these facilities in Ibadan metropolis were fair.

Keywords: Satisfaction, infrastructure, adequacy, facilities, residents.

#### **INTRODUCTION**

World Health Organization (WHO) (2007) defined Quality of Life (QoL) as an individual's perception of their position in life, in the context of the culture and value systems in which they live and in relation to their goals, expectation, standards and concern. QoL can be described as a broad ranging concept that is affected by a person's physical health, psychological state, level of independence and their relationships to salient features of the environment. It focuses on all facets of life, which includes cultural, social, environmental, physical, health and the local value systems, among others.

QoL has been a developing concept overtime for addressing issues such as health, environment, liveability, housing, urban psychology and many other social and physical aspects that influence human lives directly and indirectly. The concept has also significantly become more relevant in terms of measuring progress toward achieving improved wellbeing and therefore, helping to fulfil sustainability goals and objectives. More so, it helps in contextualizing relevant policies and strategies by

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local and regional governments in seeking a foster sustainable regional development in more holistic and inter-disciplinary ways (Costanza, 2007).

Studies on QoL across different nations of the world have established the variation that exist in space (Prescott-Allen 2001; Bovaird & Löffler 2003; Senlier et al., 2009; Ietto et al., 2014). For instance, while Rusche (2010) found that there is spatial variation in the quality of life of the people in Germany; Senlier et al. (2009) acknowledged the variation in the quality of life of residents in Bosnia and Herzegovina. More so, Ietto et al. (2014) observed a spatial variation in the quality of life conditioning with reference to the local environmental management in Bivona country (Calabria, Southern Italy) (Adedibu, 1995; Adell, 1999).

The rapid urbanization taking place within the cities of the world have multi-dimensional challenges which have been noted within the different residential spheres (Afon 2007a). These challenges manifest in diverse ways. These include mass poverty, gross inequality, high unemployment, crowded housing, proliferation of slums and squatters, and deterioration in the environmental condition. Others are the inadequate supply of water, overcrowding in schools and hospitals, increase in traffic jams, road accidents, crimes, and social tensions. Of particular interest and attention is the growing concern on the residents' quality of life (OoL). (O'Boyle, 1997; Omar, 2009). In a similar submission, World Health Organization (WHO) (2007) defined QoL as an individual's perception of their position in life, in the context of the culture and value systems in which they live and in relation to their goals, expectation, standards and concern. From the above definitions, QoL can be described as a broad ranging concept that is affected by a person's physical health, psychological state, level of independence and their relationships to salient features of the environment. It focuses on all facets of life, which includes cultural, social, environmental, physical, health and the local value systems, among others (Mundia & Aniya, 2006; Adetunji, 2008; Olapegba, 2008; Omole, 2010).

QoL as a concept has attracted a lot of researches and policy attention in recent time among social scientists and health professionals (Flora, 2004; Bramston et al., 2005; Moshen & Afshari, 2009; Olapegba, 2010). To underscore the importance of QoL, WHO set up a group dedicated to the study of the concept with a vie w to improving quality living. OoL has been a developing concept overtime for addressing issues such as health, environment, liveability, housing, urban psychology and many other social and physical aspects that influence human lives directly and indirectly (Mundia & Aniya, 2006; Oyesiku, 2009; Omole & Rotowa, 2010). The concept has also significantly become more relevant in terms of measuring progress toward achieving improved wellbeing and therefore, helping to fulfil sustainability goals and objectives. More so, it helps in contextualizing relevant policies and strategies by local and regional governments in seeking a foster sustainable regional development in more holistic and inter-disciplinary ways (Costanza, 2007).

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## Literature Review

#### Multidimensionality and global assessment of QoL

Definitions of quality of life tend to focus on its multidimensionality. Beckie & Hayduk (1997) argued, however, that such definitions confound the dimensionality of the concept with the multiplicity of the causal sources of that concept. They argued that quality of life could be considered as 'a global personal assessment of a single dimension which may be causally responsive to a variety of other distinct dimensions: it is a one-dimensional concept with multiple causes.

It is thus logical for a one-dimensional indicator of quality of life (e.g. a self-rating global QoL uniscale) to be the dependent variable in analyses, and the predictor variables include the range of health, social and psychological variables (Onokerhoraye & Omuta, 1994; Post et al., 1999). A global QoL assessment is the consequence of an individual's comprehensive evaluation which includes a wide range of physical, psychological, social, and economic, community and societal considerations. In addition, these factors may interact, adding to the complexity of the evaluation. The predictor variables in a model of global quality of life self- evaluation would, by necessity, have to include a wide range of life domains if it is to mirror how those evaluations were made (Foo, 2000; Heuch & Schulz, 2012).

Beckie & Hayduk (1997) argued on the basis of this logic that a one-dimensional QoL rating, such as: How do you feel about your life as a whole (overlapping with life satisfaction scales) could be the consequence of global assessments of a range of diverse and complex factors. As the authors point out, this can be problematic for causal analyses if the QoL evaluation is greater than the sum of its parts, but the diversity, multiplicity and complexity of sources of QoL warrants treating its measurement in terms of a global assessment (Ife, 2007).

## A Survey of Quality of Life Indicators

There has been an increasing interest in developing generally applicable QoL indicators in the last years (Rusche, 2010). The assessment of QoL has received special attention from several international organizations including the United Nations, the Binational Quality of Life Indicators Project, the World Bank, the World Health Organization, and the International Labor Office. The Binational Quality of Life Indicators Project (2001) specifies nine classes of indicators, which include demographic, public safety and crime, economic, education, health and healthcare, environmental, housing, transportation, and governance.

An assessment of the quality of life is not an easy task. Since the mid-1960s a major concern with assessing and monitoring national and local levels of what has been variously described as social well-being, livability or quality of life has arisen both in government and in the academy community of both the advanced and the Third World countries. This concern is associated partly with a changing national perspective away from a single-minded focus on economic success to a more plural set of objectives and underlying values. The choice of relevant indicators which can monitor effectively the level of social well being or quality of life in the urban area is of major importance. There are a number of problems confronting the choice of these appropriate indicators. There are separate problems in identifying relevant indicators, on measuring them and in utilizing them in intergroup comparisons. Data or qualitative or subjective dimensions of well-being are particularly elusive. As a result, there is a tendency to rely on official statistics some of which may not measure effectively the nature of well-being in the urban area. One approach to the measurement of quality of life in the urban area is to isolate the broader dimensions of the quality of life in the city with each of these dimensions consisting of a number of variable elements. These dimensions and the various elements used to measure them are bound to vary from society to another depending on the level of socio-economic development, ideology, culture and aspirations of the people (Keeble, 1969; Mabogunje, Mistra & Hardoy, 1978; Mabogunje, 2002; Afon, 2009).

Sirgy (2002) defined subjective quality of life with reference to subjective well being, itemised as happiness, life satisfaction and perceived quality of life. After reviewing philosophical concepts of happiness, he focuses on prudential (e.g. a state of well being) and 'psychological (e.g. feelings of joy) happiness as relevant to quality of life. He argued that prudential happiness is leading a good life' as it includes both feelings of happiness and the action which leads to personal growth. Blanchflower, Oswald and Stutzer (2001), following Veenhoven (2002, 2004) defined happiness as the degree to which the individual judges the overall quality of his or her life to be favourable or unfavourable. Happiness has an affective or emotional component (Andrews & McKennel 1980).

In contrast, to morale and life satisfaction, happiness is regarded by psychologists as a short-term affect, able to fluctuate on a daily basis, and as a transitory mood of 'gaiety and elation that reflects how people feel towards their current state of affairs (Campbell, 1976). Some investigators have also defined happiness in terms of life satisfaction, confusing the two concepts. For example, Argyle et al. (1989) defined happiness as the frequency of joy, the average level of satisfaction and the absence of negative feelings. Sirgy (2002), pointed to the overlap between the distinct concepts of life satisfaction (a cognitive construct) and happiness (an affective construct), which have been reported to share as much as 50-60% common variance. While health has been reported to be the main predictor of both happiness and life satisfaction (Michalos et al., 2000; Palmore & Luikart, 1972; Hayes & Ross, 1986; Bowling et al., 1996), correlations between measures of these concepts might simply be tapping the underlying factors that the measures have in common (McKennell, 1978).

According to Giroult (1996), the Healthy City (HC) concept was developed by Professor Leonard Duhl from Berkley University to curb the shortcomings inherent in the contemporary urban environment. In their first healthy cities paper, Duhl et al., (1998), defines a healthy city as one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support one another in performing all the functions of life and in developing to their maximal potential (Veenhoven & Hagerty, 2006 Tesfazghi, 2009).

Thus, as noted by Agbola & Agbola (1997), the HC concept is a learning process whose lessons would be learned and applied over a long-term. Egunjobi & Agbola (1996), defines HC as one that strives to create, promote and maintain conducive urban environmental health conditions through resource pooling and resource sharing among various agencies, such as: associations and community members, local authorities and community organizations, NGOS and inter-governmental organization. The HC project challenges cities to take seriously the process of developing health-enhancing public policies that create physical and social environments, which support health and strengthen community action for health.

# MATERIALS AND METHOD

#### The study area

Ibadan city is a traditional urban centre founded in 1820's. It is the largest indigenous urban centre in Africa south of the Sahara (Mabogunje et al., 1978). It is one of the most urbanized areas in Nigeria. It derived its name from Eba - Odan i.e. "near the grassland environment'. It is derived from history that its location was not accidental. This is consequent on the fact that the Forest provided the much-needed protection for refuges that flock into the town. The presence of grassland provided farmland for cultivation purposes, marketing centre for traders and goods from both the forest and the grassland areas of the Western half of Nigeria (Fig. 1).

The growth of Ibadan city started in 1893 when a trend of peace was threatened by the British government and the residents. This incidence marked the beginning of the emergence of the city as a major commercial and administrative centre. The construction of railways in 1901 enhanced commercial activities which attracted the European and the Lebanese to establish firms and hence the establishment of modern business centers and the European reservation area (Federal Government of Nigeria (FGN) 1992). This development marked the beginning of large-scale immigration of various ethnic groups like the Ibos, Ibibios, Edos Urohobo, Fulani, Hausas, Nupes, Ebiras into the city. All these contribute to the growth of Ibadan city.

#### Methodology

Multi-stage sampling technique was employed for data collection. The first stage is the selection of the five Local Government Areas in the metropolis. These are Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and

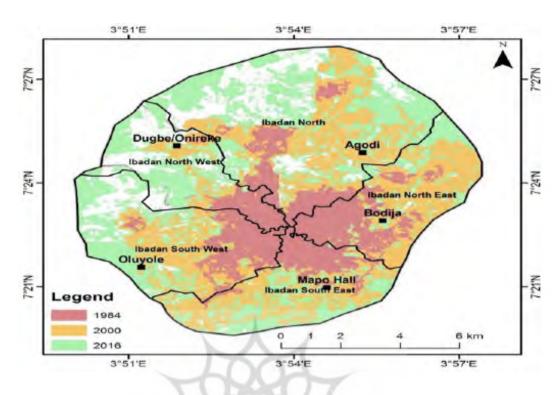


Fig.1: Spatial Growth of Ibadan from 1984 to 2016

Ibadan South West. The selection of all the local government areas is based on the fact that all of them cut across all the residential zones in the metropolis and they are all spatially coverage at the centre of the city. The second stage involves the stratification of study areas into residential zones based on Afon (2000, 2007b) scheme: the core, transition and suburban. As a result, the residential areas in the five local government areas of the metropolis were stratified into three: the core, transition and suburban. Furthermore, local government areas in Ibadan metropolis were stratified into the existing political wards, as recognized by Oyo State Independence Electoral Commission (2012) in the conduct of electoral polls. According to pilot study, the total number of political wards in Ibadan metropolis was 59. In each Ibadan North, Ibadan North East, Ibadan South East and Ibadan South West there were 12 political wards while Ibadan North West was with eleven (11) political wards. The spatial distribution of political wards showed that there were 29, 17 and 23 wards in the core, transition and suburban respectively.

In the third stage, a ward in each residential zone of Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and Ibadan South West was selected randomly without replacement for questionnaire administration. Through this method, a total of fifteen (15) wards were selected for survey consisting of three (3) wards respectively from the core, transition and suburban of the five local government area council of Ibadan metropolis. This selection represents 33.8% of the sampling frame.

The primary and the secondary data which were obtained through the GPS field operations, the quick bird image and existing maps were integrated together in the ArcGIS software from which local queries were performed to produce a GIS database containing the facilities in Ibadan metropolis.

As presented in Table 1, information from the Google Earth and reconnaissance survey revealed that there were 51, 351 buildings in the selected political wards across the three residential zones of the metropolis. These comprised 26, 427 buildings in the core residential zone, 14,924 buildings in the transition zone and 10,417 buildings in the suburban zone. Systematic sampling technique was employed to identify where households heads will be selected for survey. The first building was chosen randomly. Subsequent unit of investigation was every 50th building in each ward, representing 2% of the buildings in the selected wards. Thus, 1,035 buildings were sampled comprising of 528 buildings in the core residential zone, 299 in the transition zone and 208 in the sub-urban zone. A household head was the respondent selected from a sampled building. In the case where the household head was not available, any available adult was sampled. Thus, a total of 1,035 copies of questionnaire were administered for the study.

Residential Areas		Ibadan North	Ibadan NE	Ibadan NW	Ibadan SE	Ibadan SW	Total
Core	Total Buildings	556 3	224 6	805 4	433 5	409 6	427 26
	Sampled Buildings	71	124	96	109	128	528
Transition	Total Buildings	673 5	580 2	857 1	238 2	576 2	924 14
	Sampled Buildings	113	52	37	45	52	299
Sub-urban	Total Buildings	315 2	195 2	122 2	792 1	993 1	417 10
	Sampled Buildings	46	44	42	36	40	208
Total	Total Buildings	544 11	999 10	784 8	463 9	561 10	351 51
	Sampled Buildings	232	220	176	192	212	1035
			A				

Table 1: Buildings in the different residential zones where household heads were selected for survey

Also, residents were made to express their opinion on the condition of the facilities in their locality using a five-point Likert scale of 'Very Good' (VG), Good' (G), 'Neither Poor nor Good' (NPNG), 'Poor' (P) and 'Very Poor' (VP). Therefore, respondents also rated their level of satisfaction on each facility using a five-point likert scale of 'Very Dissatisfied, 'Dissatisfied', 'Just Satisfied, 'Satisfied and 'Very Satisfied'. The level of satisfaction was measured by an index called Residents' Satisfaction in Infrastructure Index (RSII). Procedures for arriving at the indices were discussed under chapter three.

## **RESULT AND DISCUSSION**

#### Facilities Adequacy and Residents' Satisfaction

This sub-section of the study investigated how adequate the facilities provided for residents in the study area were and the satisfaction they derived from them. Seventeen major facilities were identified. Residents were to rate the level of adequacy of each facility using a five-point likert scale of Not at All Adequate (NAA), Not Adequate (NA), Adequate (A), Very Adequate (VA) and Very Much Adequate (VMA). In order to obtain the Facility Adequate Index (FAI) of each facility, a weight value of 1, 2, 3, 4 and 5 was respectively assigned to each rating above. The summation of weight value (SWV) for each facility was obtained from the addition of the product of weight value of each rating and the number of responses to each rating. The FAI was finally obtained by dividing TWV by the total respondents that rated each facility. While FAI only revealed the adequacy of infrastructure in the study area, the actual quality of life could be determined by the satisfaction residents enjoyed on each facility. Therefore, respondents also rated their level of satisfaction on each facility using a five-point likert scale of 'Very Dissatisfied, 'Dissatisfied', 'Just Satisfied, 'Satisfied and 'Very Satisfied'. The level of satisfaction was measured by an index called Residents' Satisfaction in Infrastructure Index (RSII). Procedures for arriving at the indices were discussed under chapter three.

Presented in Table 2 was the aggregate residents' view on how adequate each of the identified facilities was in the study area. The nearer the FAI to 5, the more adequate the facilities were considered by residents. The average facility adequacy (FAI<sub>lbadan metropolis</sub>) for the study area was 2.64.

$$AI_{Ibadan metropolis} = \frac{\sum FAI}{(N=17)} = \frac{44.82}{17} = 2.64$$

## Formula 1: Facility Adequacy Index

This implied that facilities in the study area were not adequate as perceived by respondents as the index of 2.64 lied close to 'adequate'. However, the level of satisfaction derived from these facilities in the study area was 3.18 as presented in Table 3. An index close to 3 (that is, just satisfied). The five most adequate facilities to residents and their corresponding satisfaction derived were church (FAI=4.44; RSII=4.16), mosque (FAI=4.44; RSII=2.41), nursery/primary school (FAI=4.18; RSII=2.65), secondary school (FAI=3.96; RSII=3.15) and market (FAI=3.45; RSII=3.19). On the other hand, facilities such as waste disposal, layout plan, recreation, parking/open space and drainage were perceived as most inadequate in the study area. Waste disposal facility with an

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Facilities	NAA	NA	Α	VA	VMA	SWV	FAI	Deviation about the mean	
i acintico	1	2	3	4	5		IAI		
Church	0	0	102	2012	2490	4604	4.44	1.80	
Mosque	0	12	84	2004	2500	4600	4.44	1.80	
Nursery/Primary school	0	4	330	2472	1525	4331	4.18	1.54	
Secondary School	0	8	84	4004	10	4106	3.96	1.32	
Market	0	0	1689	1888	0	3577	3.45	0.81	
Maternity Centre	76	798	471	1572	50	2967	2.86	0.22	
Dispensary	148	586	501	1684	30	2949	2.84	0.20	
Communication facilities	345	126	300	2056	65	2892	2.79	0.15	
Fire station	0	1002	1347	340	0	2689	2.59	-0.05	
Security/Police Post	163	1600	141	0	125	2029	1.96	-0.68	
Public toilet	431	848	390	148	65	1882	1.81	-0.83	
Library	485	906	168	132	40	1731	1.67	-0.97	
Drainage facilities	498	904	168	104	15	1689	1.63	-1.01	
Parking/open space	517	848	207	68	40	1680	1.62	-1.02	
Recreational facilities	575	748	102	156	65	1646	1.59	-1.05	
Good layout plan	551	802	180	32	75	1640	1.58	-1.06	
Waste Disposal Facilities	679	610	96	60	20	1465	1.41	-1.23	

Table 2. Facility adequacy index of the identified facilities in Ibadan Metropolis

index of 1.41 was perceived to be the least in the study area. This finding supports the claim of Taiwo (2014) who submitted that waste generated by beggars (who were also residents) was indiscriminately disposed where they were found. This was due to inadequacy of waste disposal facilities.

RSII *Ibadan metropolis*<sup>=</sup> 
$$\frac{\sum RSII}{(N=16)} = \frac{50.96}{16} = 3.18$$

Formula 2: Residents Satisfaction in Infrastructure Index

#### Adequacy of Facilities and Residents' Satisfaction

Having examined the level of facilities' adequacy to residents and the satisfaction they derived from them, multi-criteria analysis is employed to polarise the variables (facilities) into four main categories. These are presented in Table 4.

Category one: This category is comprised of facilities that had positive deviations about the means of FAI and RSII. These facilities were rated to be very adequate to the residents. High levels of satisfaction were also derived from these facilities by the residents. Facilities in this group were church, market and dispensary. Furthermore, findings showed that deviations about the mean of the satisfaction index of the facilities such as church and dispensary were higher than their respective FAI. This implied that these facilities were available and adequate to greatly satisfy the residents.

Category two: Facilities in this category were with positive deviation about the mean of FAI, but with negative deviation about the mean of RSII. Findings revealed that these infrastructural facilities were very adequate to the residents, but the residents were not satisfied with their adequacy in the study area. These facilities were mosque, nursery/primary school and secondary school.

Category three: This group of facilities observable had negative deviations about the mean of both FAI and RSII. The facilities under this category, as presented in Table 4, were security/ police post, recreation and waste disposal. This implied that residents perceived the variables relating to these facilities as being inadequate and at the same time, the satisfaction derived from them was very low.

Category four: This last category of facilities represented those that were inadequate to residents but yielded high satisfaction to them. Each of these variables had negative deviation about

	VD	D	JS	S	VS			Deviation about the mean
Facilities	1	2	3	4	5	SWV	RSII	
Church	9	20	231	2580	1470	4310	4.16	0.98
Drainage facilities	4	4	48	3948	130	4134	3.99	0.81
Dispensary	10	58	75	3764	150	4057	3.92	0.74
Electricity supply	27	90	282	3436	50	3885	3.75	0.57
Fire station	0	8	909	2912	0	3829	3.70	0.52
Public toilet	2	248	543	2912	0	3705	3.58	0.40
Open space	0	0	2157	1264	0	3421	3.31	0.13
Market	0	4	1833	1464	0	3301	3.19	0.01
Secondary School	2	0	2562	700	0	3264	3.15	-0.03
Security/Police Post	0	240	1995	784	0	3019	2.92	-0.26
Waste Disposal Facilities	0	362	2562	0	0	2924	2.83	-0.35
Nursery/Primary school	0	734	2004	0	0	2738	2.65	-0.53
Transport network	2	840	1635	40	30	2547	2.46	-0.72
Recreational facilities	0	4	2931	0	0	2935	2.84	-0.72
Mosque	2	1300	1047	112	30	2491	2.41	-0.77
Water supply	25	1802	273	72	0	2172	2.10	-1.08

Table 3. Residents' Perceived Satisfaction on Facilities in Ibadan metropolis

Table 4. Categorization of Facilities based on deviation about the mean of FAI and RSII

Infrastructural Facilities	Deviations about	FAI mean Deviations about RS	II mean Category
Church	1.80	0.98	А
Market	0.81	0.01	А
Dispensary	0.20	0.74	А
Mosque	1.80	-0.77	В
Nursery/Primary school	1.54	-0.53	В
Secondary School	1.32	-0.03	В
Security/Police Post	-0.68	-0.26	С
Recreational facilities	-1.05	-0.72	С
Waste Disposal Facilities	-1.23	-0.35	С
Public toilet	-0.83	0.40	D
Drainage facilities	-1.01	0.81	D
Parking/open space	-1.02	0.13	D

the mean of FAI and positive deviation about the mean RSII. Variables among this category were public toilet, drainage facilities and parking/open space. This implied that since residents were used to some of these facilities and had become part of their normal life in the study area, they were satisfied with them, but did consider them inadequate. Although the residents were satisfied with the above mentioned facilities, their level of adequacy to enhance their well-being was negative.

## CONCLUSION

The study has examined the spatial analysis of residents' quality of life in Ibadan metropolis. The study revealed that facilities such as water supply, restaurant, dispensary, drainage, electricity supply, waste disposal, fire station, among others, were insufficiently available in the study area. However, this could hamper the residents' well-being. The socio-economic characteristics of residents such as marital status, educational background, occupation and residents' length of stay in the study area varied significantly across the residential areas. Thus, the study concluded that the residents' quality of life in Ibadan metropolis was fair. This study has provided information on residents' quality of life based on residents' perceptions. This information can be used by decision makers in framing development policies aimed at improving the residents' quality of life.

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