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THE QUALITY OF URBAN LIFE AND THE PERCEPTION OF LIVABILITY: A CASE STUDY OF NEIGHBOURHOODS IN BENIN CITY, NIGERIA

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ABSTRACT. Third World cities face many persistent planning problems. The problems persist partly because planning has not been sufficiently responsive to local peculiarities. This lack of responsiveness is in turn because of the gross scale at which problems are conceived and attacked. One of the persistent problems in all Nigerian cities is their poor environmental quality. This study, therefore, seeks to investigate the environmental problems of Benin City, capital of Bendel State of Nigeria. Six environmental dimensions are measured and analysed. A composite conceptual index of quality of life is derived from the six dimensions, and compared with an index of perceived quality for each area. The study adopts the neighbourhood as the unit in collecting and analysing data, and in proposing solutions. It is recommended that planning administration in Benin City must be decentralized, if it is to be more responsive to intra-city environmental eccentricities, and improve the quality of life.

INTRODUCTION

As urban size increases, so in some ways, the quality of the environment improves; although in some other ways, the environment also tends to deteriorate. However, because the city differs in age from the center to the periphery, and is occupied by people of different socio-economic characteristics, and because the different parts are often differently amenable to development control and planning, they will tend to have different mixes of environmental amenities and disamenities. Consequently, the quality of life varies from one neighbourhood to another.

The object of this study, therefore, is to analyse the quality of life in Benin City, with a view to determining its spatial expression. To achieve this objective, the rest of the paper is divided into five sections. First, the conceptual framework of the study is provided. Section two then outlines the study area, the data and the research design. The major findings of the study are discussed in section three, while some policy and planning implications and concluding remarks are presented in sections four and five, respectively.

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THE CONCEPTUAL FRAMEWORK

Detwyler and Marcus (1972) have defined the environment as the aggregate of the external conditions that influence the life of an individual or population. A logical extension of this definition is that, because the mix of external conditions will almost always vary from place to place, the quality of the environment will be correspondingly different. These variations are of great significance in urban policy and management, because as Michelson (1973) has argued, planning professions rely heavily on the assumption that the urban physical environment which surrounds particular types of people influences social life, their perception of the neighbourhood and the satisfaction they derive from living in it.

For the purpose of using the concept of the environment, the various external conditions included in its definition are often conceived as dimensions. These, Cox (1972) has distilled into eight, and accordingly defines a good environment as nuisance free, healthful, and provides employment opportunities, recreational opportunities, housing opportunities, educational opportunities, modern amenities, as well as health opportunities. In reality, the quality of the local environment will depend on the degree or extent to which these criteria have been satisfied or violated.

While people are increasing in numbers, productivity and technology, the rest of nature remains relatively fixed. Although people have always produced nuisances and pollutants, until recently, the natural processes in our environment were able to absorb, neutralize and/or convert most of them into harmless substances. But, as Raven (1967) has argued, in recent times, pollutants are produced in such large quantities that the capacity of the environment to absorb them is often exceeded. The result is environmental pollution, the degree of which depends on the number and local concentrations of the agents.

Ordinarily, and as a unit, the city is the depository of wage employment (Adepoju, 1975). However, by the nature of the arrangement of land uses in the city, some areas have more of certain types of employment opportunities than some other areas. Intra-city differences in job opportunities are important to environmental quality and perception because journey to work involves friction of space and urban residents

vary in their sensitivity and capability to overcome this friction. Hence, Blumenfeld (1971) has argued that the mere existence of a wide range of employment within an urban area is only an empty promise without accessibility. Blumenfeld, therefore, suggests the need for commuting to work to be reduced by providing, within each section of an urban area, an approximate balance between the number of residents in the labour force, and the number of jobs. This provision improves the employment environment.

Another major dimension of the quality of urban life is that of the quantity and quality of neighbourhood amenities. The concept of amenity is, however, rather amorphous. According to Cullingworth (1974), like the proverbial elephant, amenity is easier to recognize than to define. Amenity is not a single quality (Lord Holford, 1959). It is a catalogue of values which include the beauty that an artist sees, and an architect designs for. Amenity includes utility — the right thing in the right place, and in the right amounts — light, clean air, water, domestic and community services, comfort stations or facilities that reduce the drudgery and hazards of mere existence. The satisfaction that people derive from living will vary from neighbourhood to neighbourhood as their amenity environments vary in the type and quality of opportunities they offer.

Perhaps, in terms of their relative explanatory powers the socio-economic component is the most significant element of the quality of urban life (Northam, 1975). This assertion would be better appreciated, against the background that certain individuals are constrained to live in certain parts of the city because of differential affordability, and because the amount of control that jobs, schools, shops, and so on, have on one's choice of a neighbourhood depends, among other things, on ones capability for independent mobility. In the same vein, one's educational attainment could be reflected in one's environmental perception. The socio-economic dimension of urban environmental quality, therefore, concerns those social and economic characteristics of the individual that shape his or her living environment.

While the socio-economic dimension explains much of the variability in the urban quality of life, the housing component is the most visible. Even the casual visitor or passerby cannot fail to notice differences in the physical quality of the housing stock. The relationship between

housing and overall quality and livability of cities seems to be that of a vicious circle. Because of certain constraints, the poor can afford housing only in deteriorated environments, and because of their high concentrations in rather small habitable spaces, the housing stock deteriorates fast, and as this happens, the neighbourhood also deteriorates further reinforcing the initial substandard conditions. (Beyer, 1965). It is in this process that slums have emerged and or expanded in the city, while high class residential neighbourhoods have retained their attributes, albeit, to varying degrees of success.

The overall quality of life and urban environments may be analysed at two levels: the environment as seen from the outside may be differentiated from the environment as perceived from the inside by the people who live in the various neighbourhoods. One thing that will be clear is that the quality of urban life and the livability of the city as expressed in the environmental images are made up of a combination of a plethora of cognitive maps or mental perceptions, which translate directly into a spatial expression. These cognitive maps of the urban environment can then be examined in relation to the characteristics of the people in various parts of the city.

DATA AND RESEARCH DESIGN

This study seeks to do two things. First, to measure the quality of life of the various neighbourhoods in Benin City in terms of conceptual standards, and secondly, to analyse how the people themselves evaluate their local environments from within.

For the purpose of conceptually measuring overall quality of life in Benin City, five broad dimensions are used. Each dimension is measured through a number of variables. Thus, the *employment dimension* is measured by obtaining information on: the proportion of residents who work within the neighbourhood; the proportion that work in contiguous neighbourhoods; and the proportion that work outside contiguous neighbourhoods. The *housing dimension* is measured by obtaining information on: the average age of the buildings in the neighbourhood; household rental payments as a proportion of household incomes; and occupancy rates. The *amenity dimension* is measured by: the reliability of electricity supply; the reliability of water

supply; and accessibility to health facilities. The *educational component* is measured by: the number of primary and secondary schools within the neighbourhood, on the one hand, and in the contiguous neighbourhoods, on the other. Regarding the *nuisance dimension*, information was got on the number of noise generating agents within the neighbourhood, on the one hand, and in contiguous neighbourhoods, on the other. The *socio-economic dimension* is measured by three variables, namely: average household incomes, years of formal education received, and the proportion of residents who have a private automobile. Data on these dimensions and their operational variables are presented in Tables I to VI. To determine overall quality of life, information on each of the six dimensions are summarized in table VII.

For the purpose of measuring the *perceived environment*, respondents were asked to express in percentages, their level of satisfaction with each of the environmental dimensions. However, because socio-economic variables are used in this study to explain the differences in the directions of deviations of perceived, from conceptual quality, that dimension is excluded from the residents' evaluation of environmental components. The resultant composite assessment is presented in Table VIII.

To be able to give quantity to the concept of quality in this study, responses on all the dimensions and variables are ranked by neighbourhoods. For the purpose of the ranking, environmental dimensions are differentiated into those that are desirable, and those that are undesirable. In this regard, employment, housing, amenity, education and socio-economic characteristics, are broadly regarded as desirable, while all forms of nuisance are regarded as undesirable. Generally, the ranking of the desirable dimensions is based on the principle that the more of them a neighbourhood has, the better. Hence, a neighbourhood's share is inversely related to its rank number, and *vice versa*. On the other hand, the undesirable dimension is ranked according to the principle that the less of it a neighbourhood has, the better. Hence, the rank number is directly related to the share of the dimension, and *vice versa*.

However, within the desirable dimensions, the operational variables are ranked according to the principle that the more of them that are locally available in the neighbourhood, or in contiguous neighbour-

hoods, the better, and *vice versa*. Consequently, with respect to a variable that is available within the neighbourhood or in contiguous neighbourhoods, the rank number is inversely related to the neighbourhood's share, and *vice versa*. On the other hand, with respect to a variable which is neither available locally nor in contiguous neighbourhoods, the rank number is directly related to the neighbourhood's share.

To collect the data on all the three variables of the employment dimension; the rental and occupany variables of the housing dimension; all the three variables of the socio-economic dimension; and perception of the overall environmental quality, the stratified random aligned traverse sampling procedure (Berry and Baker, 1968) is adopted. The twenty-one neighbourhoods in Benin City formed the strata. In each stratum (neighbourhood) traverses (streets) were randomly selected. Along each selected street, every one in ten residential houses was picked, and the relevant information was obtained from one household. At the end of the exercise, 1410 households were found to have returned useful information. The other physical variables were counted in the field.

FINDINGS

Corresponding to the theoretical framework of the study, the major findings are discussed under two broad categories of measurements. First, the quality of life as measured through conceptual standards, and secondly the quality of life as judged or perceived and evaluated from the inside, by those who are in daily contact with, and whose lives are affected by, the applied indicators.

1. *Conceptual Quality of Life in Benin City*

The discussion that follows corresponds to the six environmental components considered.

(a) *Employment environment.* In the context of this study, a good employment environment is one that offers the greatest job opportunities to the largest number of people in the neighbourhood. Where,

as it is to be expected, the neighbourhood cannot provide employment for all its residents, the quality of its employment environment would still be regarded as high, if the residents could find their kind of jobs in contiguous neighbourhoods, since this still minimizes the friction of space, and the cost of journey to work. In the same vein, all things being equal, to people with the same opportunities and constraints, the least preferred employment environments would be those that are outside a given neighbourhood and/or those contiguous to it. The spatial summary of the micro employment environments of the city may be stated thus. If all other dimensions are held constant, the more employment is available locally within a neighbourhood, the more satisfying would be its environment, and the higher would be its quality and livability, and *vice versa.*

Against this background, Table I shows that the proportion of neighbourhood populations that have jobs locally vary from a low of 0.9% in Idumwunivbiotor to a high of 57.3% in Ibiwe. The corresponding proportions for jobs that are available in contiguous neighbourhoods vary from a low of 1.2% also in Idumwunivbiotor to a high of 69.4 in Eguadase. Finally, the proportion of the various neighbourhood populations that work in more distant neighbourhoods ranges from a low of 10.0% in Iwegie, to a high of 97.9% in Idumwunivbiotor.

Compositely, the study shows that (in the total rank score for each neighbourhood on all the variables in this dimension), by conceptual standards, Iwegie provides the best employment environment for its residents. This is so because 90.0% of the residents find jobs, either within it or in contiguous neighbourhoods. At the other extreme, is Idumwunivbiotor, where less than 3% of its residents work either within it, or in contiguous neighbourhoods.

(b) *Housing environment.* For the present purpose, a good housing environment is one that satisfies three conditions, namely: its houses are structurally safe and not dilapidated; it is not over-occupied (overcrowded); and does not draw too heavily on the household monthly budget. Accordingly, if all other environmental dimensions, and their variables, are held constant, the neighbourhood with very old housing should be regarded as a poor housing environment, and *vice versa.* Similarly, a neighbourhood where rental payments constitute dispro-

TABLE I
Employment environment in Benin city

Neighbourhood	Employment within neighbourhood		Employment in contiguous neighbourhoods		Employment outside contiguous neighourhoods		Environmental rank
	%	Rank	%	Rank	%	Rank	Score
Ugbowo	43.1	3	4.6	19	52.3	14	36
Uselu	18.7	11	42.0	11	39.3	13	35
Ikpoba	8.4	18	36.9	12	54.7	16	46
Okedo	21.9	7	59.2	5	18.9	3	15
Urubi	16.4	13	64.4	3	29.2	9	25
Uzebu	48.7	2	12.6	16	38.7	12	30
Idumwunivbiotor	0.9	21	1.2	21	97.9	21	63
Ihumwunidumwun	19.9	9	46.2	10	33.9	11	30
Oliha	32.0	4	50.2	7	17.8	2	13
Ogbelaka	21.4	8	46.4	9	32.2	10	27
Ugbeku	1.2	20	11.9	17	86.9	19	56
Adesogbe	19.5	10	6.4	18	74.1	18	46
Ibiwe	57.3	1	23.3	14	19.4	4	19
Iyekogba	1.7	19	2.1	20	96.2	20	59
Ewarkpen	12.4	14.5	16.4	15	71.2	17	46.5
Evbuogida	11.6	16	24.9	13	53.5	15	44
Iguisi	25.9	6	64.1	4	10.0	1	11
Iwegie	29.4	5	49.2	8	21.4	6	19
Eguadase	10.0	17	69.4	1	20.6	5	23
Ogboka	16.8	12	54.6	6	28.6	8	26
Igbesamwan	12.4	14.5	64.9	2	22.7	7	23.5

Source: Fieldwork, 1984.

portionately large household budget items, on the one hand, where there is a very high degree of over-crowding, on the other, should be regarded as a poor housing environment, and a low standard of livability along that dimension.

In this regard, Table II shows that in Benin City, the average age of housing varies from a low of 5.2 years in peripheral Ugbowo, to a high of 42.1 years in central, traditional Ibiwe. Table II also shows that rental payments, as percentages of household monthly budgets, range from a low of 20.8% in Ugbowo to 36.7% in Oliha. Finally, the study shows that the degree of overcrowding (that is households living at rates of more than 2 persons per room), ranges from a low of 19% in

TABLE II
Housing environment in Benin city

Neighbourhood	Average age of buildings		Rental payment as percentage of income		Overcrowding		Total rank
	Years	Rank	%	Rank	Rate	Rank	Score
Ugbowo	5.2	1	20.8	1	28.5	4	6
Uselu	19.6	11	32.7	18	79.3	21	50
Ikpoba	12.6	7	22.2	4	19.1	2	13
Urubi	22.1	13	36.1	19.5	72.0	15	47.5
Uzebu	10.1	4	31.1	17	24.5	3	24
Idumwunivbiotor	6.1	2	22.6	5	76.9	19	26
Ihumwunidumwun	11.9	5	26.2	9.5	65.7	11	30
Oliha	18.5	10	36.2	21	51.9	6	37
Ogbelaka	36.6	19	24.4	6	62.9	9	34
Ugbeku	8.4	3	26.6	11	64.8	10	24
Adesogbe	21.1	12	30.1	16	28.9	5	33
Ibiwe	42.1	21	28.1	12	72.6	16	49
Iyekogba	12.4	6	25.0	7	19.0	1	14
Uwaekpen	25.2	14	26.2	9.5	78.8	20	43.5
Evbuogida	16.8	8	21.8	3	53.7	7	18
Okedo	18.4	9	20.9	2	76.3	18	29
Iguisi	26.1	15	28.5	14	66.0	12	41
Iwegie	30.1	17	28.4	13	62.6	8	38
Eguadase	29.8	16	25.2	8	70.7	14	38
Ogboka	36.2	18	28.6	15	75.2	17	50
Igbesamwan	32.8	20	36.1	19.5	68.7	13	52.5

Source: Fieldwork, 1984.

Iyekogba (the Government Reservation Area) to a high of 79.3% in Uselu.

To summarize the quality of the housing environment in Benin City, the study shows that Ugbowo, a predominantly University neighbourhood, offers the best environment, because it offers the best combination of new, structurally safe housing, rental payments as percentage of household incomes, and occupancy rates. This is followed by Ikpoba and Iyekogba. At the other extreme, the study shows that the most unfavourable combinations, implying the poorest housing environments are found in Igbesamwan, Ogboka and Uselu, in a descending order.

(c) *Amenity environment.* Generally, the provision of public/social

services is very inadequate in Nigeria. Although there is a clear urban-rural dichotomy in the quality of services provided (usually with the urban centres being more favoured), there is also a clear mismatch between the quantity of services provided in the cities, and the number of people to be served. Hence almost all services that are divisible, are rationed among the various neighbourhoods in the city. In this rationing, however, some neighbourhoods are persistently and consistently relatively better served than others. Against this background, this study regards a good amenity environment as the one with reliable and dependable water supply; in which the supply of electricity is least disrupted; and in which there is reasonable access to medical care, and *vice versa*. The relevant information are presented in Table III.

TABLE III

Amenity environment in Benin city

	Weekly power seizure		Running taps in days/wk.		Health facilities (hospital beds)				Total rank
					Within		Outside		
	$\bar{X}$hrs	Rank	Days	Rank	No.	Rank	No.	Rank	Score
Ugbowo	8	3.5	4	4	140	2	54	12	21.5
Uselu	16	20	2	9	54	5	140	4	38
Ikpoba	11	6	3	5	28	10	0	19.5	40.5
Okedo	8	3.5	2	9	0	17	60	9.5	39
Urubi	15	17	2	9	0	17	0	19.5	62.5
Uzebu	8	3.5	5	2.5	56	4	42	14	24
Idumwunivbiotor	12	8	1	17	0	17	66	7.5	49.5
Ihumwunidumwun	12	8	1	17	14	12	28	16	53
Oliha	16	20	2	9	48	6	56	11	46
Ogbelaka	14	13.5	1	17	36	8	66	7.5	46
Ugbeku	13	10.5	1	17	28	10	14	17	54.5
Adesogbe	8	3.5	5	2.5	42	7	96	6	19
Ibiwe	15	17	2	9	340	1	138	5	32
Iyekogba	1	1	7	1	66	3	478	1	6
Ewaekpen	14	13.5	1	17	0	17	60	9.5	57
Evbuogida	13	10.5	1	17	0	17	48	13	57.5
Iguisi	12	8	2	9	28	10	0	19.5	46.5
Iwegie	15	17	1	17	0	17	340	2.5	53.5
Eguadase	16	20	1	17	0	17	0	19.5	73.5
Ogboka	14	13.5	1	17	0	17	340	2.5	50
Igbesamwan	14	13.5	2	9	0	17	36	15	54.5

Source: Fieldwork, 1984.

The study shows that Iyekogba enjoys the most reliable and uninterupted supply of electricity in Benin City. It is followed by Ugbowo, Okedo, Uzebu and Adesogbe. On the other hand, the neighbourhoods where the supply of electricity is most unreliable are Uselu, Oliha and Eguadase. With respect to the supply of water, the study shows that in almost half of the city (9 cut of 21 neighbourhoods), the taps are almost dry throughout the week. However, in Iyekogba, the taps run everyday of the week. The remaining neighbourhoods enjoy intermediate qualities of services ranging from the average of two days of running taps a week, in such areas as Igbsamwan, Uselu, and Ibiwe, to an average of five days a week in Adesogbe and Uzebu. Finally with regard to access to health services, the study shows that while there are 340 hospital beds in Ibiwe, there are absolutely no such facilities locally in nine other neighbourhoods in the city. Also while Iyekogba has access to 478 hospital beds in its contiguous neighbourhoods, there are none in the neighbourhoods that are contiguous to three other neighbourhoods.

Collectively, with respect to the totality of the amenity dimension of the quality of life in Benin City, the study shows that Iyekogba has the best environment, because it has the best combination of the supplies of water and electricity, as well as proximity to medical facilities. This is followed by Adesogbe and Uzebu. At the other extreme, Eguadase has the worst amenity environment, followed by Urubi and Evbuogida.

(d) *Educational environment.* For most urban parents, the search for schools for the children begins from the neighbourhood. The class of parents who search for schools of particular qualities, wherever they are located in the city, is very small and rather insignificant. To the extent that public mass transportation systems are very poorly developed in Benin City, to that extent does the journey to and from school for the children become a significant budget item for the family, especially when there are children of school age. The majority of urban parents would, therefore, prefer a neighbourhood in which children of school age can find places. A neighbourhood could still be regarded as having a tolerable educational environment if it is contiguous to one or more neighbourhoods in which the kids could find schools. By extension, the least preferred neighbourhood would be that which involves the longest

journey to and from school for the children. The need to minimize distance to school can be best appreciated against the background that the majority of urban parents are poor.

The relevant data on the educational dimension of environmental quality in Benin City are presented in Table IV. The study shows that Ihumwuidumwu offers its residents the best educational environment in terms of the relative distribution of primary and secondary schools in Benin City. This is so because it has the best combination of within-neighbourhood, and within-contiguous-neighbourhood schools. Ihumwuidumwu is followed by Okedo and Uselu. At the other extreme, Idumwunivbiotor has the worst combination; its residents being the

TABLE IV
Educational environment in Benin city

Neighbourhood	Primary schools				Secondary schools				Total rank
	Within neighbour-hood		In contig. neighbour-hoods		Within neighbour-hoods		In contig. neighbour-hoods		
	No.	Rank	No.	Rank	No.	Rank	No.	Rank	Score
Ugbowo	3	5	2	21	3	2.5	2	12	40.5
Uselu	2	9.5	6	13.5	2	4.5	8	1	28.5
Ikpoba	1	14.5	9	7.5	2	4.5	2	12	38.5
Okedo	3	5	7	10	1	8.5	6	2	25.5
Urubi	2	9.5	5	17.5	4	1	3	7.5	35.5
Uzebu	6	1	4	20	1	8.5	1	17.5	47
Idumwunivbiotor	0	19	6	13.5	0	16.5	1	17.5	66.5
Ihumwunidumwun	4	2.5	10	5	1	8.5	3	7.5	23.5
Oliha	1	14.5	14	1	1	8.5	3	7.5	31.5
Ogbelaka	0	19	10	5	1	8.5	2	12	44.5
Ugbeku	2	9.5	5	17.5	3	2.5	2	12	41.5
Adesogbe	3	5	12	2.5	0	16.5	2	12	36
Ibiwe	0	19	12	2.5	0	16.5	5	3	41
Iyekogba	1	14.5	5	17.5	1	8.5	1	17.5	58
Uwaekpen	2	9.5	7	10	0	16.5	3	7.5	43.5
Evbuogida	0	19	9	7.5	0	16.5	4	4.5	47.5
Iguisi	2	9.5	6	13.5	0	16.5	4	4.5	44
Iwegie	2	9.5	7	10	0	16.5	1	17.5	53.5
Eguadase	0	19	10	5	0	16.5	1	17.5	58
Ogboka	1	14.5	6	13.5	0	16.5	0	21	65.5
Igbesamwan	4	2.5	5	17.5	0	16.5	1	17.5	54

Source: Fieldwork, 1984.

most disadvantaged in terms of overall access to primary and secondary schools in the city. Idumwunivbiotor is followed by Ogboka, Iyekogba and Eguadase.

(e) *Nuisance dimension.* Noise, defined as any undesirable sound (Detwyler and Marcus, 1972) is an agent of environmental pollution and a degrader of the livability of the city. Given our level of development, our technology, and some of our cultural and personal traits, a lot of noise is generated in the city. This also reflects the amount of nuisance that is created in the city and the degree to which the urban environment is polluted and the quality of life is reduced. In Benin City, the greatest offenders in noise generation are music record stores, open air traditional markets, the horns of cars, moving traffic, especially along major arterials, the airport, and power generators, among others. From the point of view of this variable, a good environment is the one in which there are no noise generators. In other words, if all other environmental dimensions and variables are held constant; the quieter the neighbourhood the higher the quality of its livability and its overall environment, and *vice versa.*

However, since sound travels over space, noise generators could constitute nuisance, even outside the immediate neighbourhood, especially when such noise agents have border locations. This is why a neighbourhood that is contiguous to another in which the noise is generated is regarded also as a (potentially) polluted, poor quality environment. The relevant information are presented in Table V. From the Table, the study shows that Uzebu is the most quiet neighbourhood in the city, followed by Iyekogba and Ugbowo. Iyekogba, the Government Reservation Area (GRA) in the city suffers from derived noise pollution from the airport which has a border location in contiguous Adesogbe neighbourhood. At the other extreme, the most noise-polluted neighbourhoods in the city are Ogboka, Ibiwe, Iwegie and Iguisi.

(f) *Socio-economic environment.* One of the commonest guages against which the quality of an environment is explained, is the predominant type of people that live in the neighbourhood. People with certain characteristics are regarded as potential degraders of the local environ-

TABLE V
Nuisance environment in Benin city

Neighbourhood	Noise Generators				Total rank
	Within neighbourhood		In contiguous neighbourhoods		
	No.	Rank	No.	Rank	Score
Ugbowo	3	4.5	9	2	6.5
Uselu	9	19	21	6.5	25.5
Ikpoba	4	8.5	21	6.5	15
Okedo	8	17	17	4.5	21.5
Urubi	8	17	53	17	34
Uzebu	3	4.5	27	10	14.5
Idumwunivbiotor	2	2	12	3	5
Ihumwunidumwun	4	8.5	30	13	21.5
Oliha	6	13.5	32	14.5	28
Ogbelaka	4	8.5	23	8.5	17
Ugbeku	3	4.5	7	1	5.5
Adesogbe	8	17	62	19	36
Ibiwe	42	21	42	19	37
Iyekogba	1	1	17	4.5	5.5
Ewaekpen	3	4.5	29	12	16.5
Evbuogida	4	8.5	23	8.5	17
Iguisi	6	13.5	57	18	31.5
Iwegie	6	13.5	68	21	34.5
Eguadase	6	13.5	32	14.5	28
Ogboka	13	20	63	20	40
Igbesamwan	5	11	28	11	22

Source: Fieldwork, 1984.

ment by virtue of their life styles, and their attitude towards, and management of, the world around them. Some of the traditional of socio-economic variables that are used to measure the quality of life in a neighbourhood are household incomes, the level of education attained by its residents and per capita automobile ownership.

Accordingly, the quality of neighbourhoods of affluent residents is characteristically higher because people can afford modern, standard housing, and are able to maintain their immediate surroundings. These neighbourhoods are characterised by typically spacious and well-kept yards and lawns. Neighbourhoods of poor residents, on the other hand, are characteristically highly deteriorated and poorly maintained, hence Northam (1975) has argued that poverty pollutes. In the same vein, if

all other environmental dimensions and variables are held constant, the tendency will be for the more educated people to live in higher quality neighbourhoods than do the less educated. Finally, in Nigeria, the private automobile is an accepted status symbol. The car owner sees himself as belonging to a special class. An associated habit of car owners in the search for accommodation, is the preference for houses that have lock-up garages and/or car porches, or at least fenced compounds, wherein the car will be secure. Invariably, such houses are standard and modern, and are in high, to moderately high, quality neighbourhoods. In other words, the proportion of people with private cars is a reasonable surrogate for the quality of the environment. The information on the three socio-economic variables are presented in Table VI.

TABLE VI

Socio-economic environment of Benin city

Neighbourhood	Income		Education		Auto ownership		Total rank
	Household mean (N)	Rank	Mean years	Rank	%	Rank	Score
Ugbowo	4761.82	2	13	1	61.9	4	7
Uselu	1004.12	12	8	12	41.2	5	29
Ikpoba	4344.64	3	12	3	67.8	3	9
Okedo	787.21	20	6	18	28.2	10	48
Urubi	982.57	15	9	9.5	31.6	8.5	32
Uzebu	4121.11	4	11	5.5	76.4	2	11.5
Idumwunivbiotor	999.01	13	10	7.5	26.4	11	31.5
Ihumwunidumwun	1016.71	10	9	9.5	22.2	12	31.5
Oliha	1266.89	7	8	12	8.2	20	39
Ogbelaka	1119.46	9	6	18	6.4	21	48
Ugbeku	1289.16	6	11	5.5	36.1	6	17.5
Adesogbe	2948.00	5	12	3	36.6	8.5	16.5
Ibiwe	946.64	17	5	21	18.9	14	52
Iyekogba	5994.10	1	12	3	82.6	1	5
Ewaekpen	989.86	14	7	14.5	16.1	16	44.5
Evbuogida	888.40	18	10	7.5	34.2	7	32.5
Iguisi	786.46	21	6	18	12.7	17	56
Iwegie	841.27	19	6	18	12.1	18	55
Eguadase	1126.84	8	8	12	8.7	19	39
Ogboka	964.64	16	7	14.5	16.9	15	45.5
Igbesamwan	1009.00	11	6	18	21.4	13	42

Source: Fieldwork, 1984.

The study shows that Iyekogba is the most affluent neighbourhood in Benin City, followed by Ugbowo, Ikpoba, and Uzebu. On the other hand, Iguisi has the greatest concentration of poor peoples, followed by Okedo, Iwegie, and Evbuogida. Similarly, the study shows that the most educated people are in Ugbowo; a university community, followed by Ikpoba, Adesogbe and Iyekogba. On the other hand, the least educated people are found in Ibiwe, followed by Okedo, Ogbelaka, Iwegie and Igbesamwa. Finally Table VI shows that the greatest concentration of private car owners is in Iyekogba, followed by Uzebu, Ikpoba and Ugbowo. At the other extreme, the study shows that the least concentrations of automobile ownership are in Ogbelaka, Oliha, Eguadase and Iwegie, in a descending order.

When all the three variables are considered together, our study shows that Iyekogba has the best environment along the socio-economic dimension, because it has best combination of household income, educational attainment and car ownership. Iyekogba is followed by Ugbowo and Ikpoba. At the other extreme, the worst combinations are found in Iguisi, followed by Iwegie, Ibiwe and Okedo.

(g) *Overall quality of life and livability: all dimensions.* Table VII shows the summary of the six dimensions of environmental quality, measured and applied separately above. The rank scores on each dimension are summed for each neighbourhood, and are reflected in the last column of the Table. From the Table, the study shows that across the city, and with specific respect to the dimensions measured, the quality of life is highest in Ugbowo, because the neighbourhood has the best overall combination of employment environment; housing environment; amenity environment; educational environment; socio-economic environment; and pollution-generation environment. Ugbowo if followed by Uzebu, Ikpoba and Iyekogba. It is interesting to note here that two of the four highest quality neighbourhoods in Benin City are associated with the development of the University of Benin. The permanent campus of the university is located at Ugbowo, while the temporary campus which served as the major centre of university activities for more than fifteen years, is located at Uzebu. Iyekogba, the Government Reservation Area (GRA), is the traditional high quality neighbourhood in the city. At the other extreme, the study shows that Ogboka has the lowest quality

TABLE VII
Overall conceptual environmental quality (rank scores)

Neighbourhood	Employ-ment	Housing	Amenity	Educa-tion	Socio-economic	Nuisance	Overally quality index
Ugbowo	36	6	21.5	40.5	7	6.5	117.5
Uselu	35	50	38	28.5	29	25.5	206
Ikpoba	46	13	40.5	38.5	9	15	162
Okedo	15	47.5	39	25.5	48	21.5	196.5
Urubi	25	24	62.5	35.5	32	34	213
Uzebu	30	26	24	47	11.5	14.5	153
Idumwunivbiotor	63	30	49.5	66.5	31.5	5	245.5
Ihumwunidumwun	30	37	53	23.5	31.5	21.5	196.5
Oliha	13	34	46	31.5	39	28	191.5
Ogbelaka	27	24	46	44.6	48	17	206.5
Ugbeku	56	33	54	41.5	17.5	5.5	207.5
Adesogbe	46	49	19	36	16.5	36	202.5
Ibiwe	19	14	32	41	52	37	195
Iyekogba	59	43.5	6	53	5	5.5	177
Ewaekpen	46.5	18	57	43.5	44.5	16.5	226
Evbuogida	44	29	57.5	47.5	32.5	17	227.5
Iguisi	11	41	46.5	44	56	31.5	230
Iwegie	19	38	53.5	53.5	55	34.5	253.5
Eguadase	23	38	73.5	58	39	28	259.5
Ogboka	26	50	50	65.5	45.5	40	277
Igbesamwan	23	52.5	54.5	54	42	22	248

Source: Computed from Tables I to VI above.

environment, followed by Eguadase, Iwegie and Igbesamwa. Again, the most striking thing about these four neighbourhoods is their central city locations.

2. *Perceived Quality of Livability*

It may not be always that the quality of life as conceptually measured, is the same as perceived by the people themselves. We, therefore, sought to determine the degree of satisfaction that people derive from living in their neighbourhoods. In this regard, a neighbourhood with which people express a high degree of satisfaction is perceived as a good environment, and would accordingly be ranked high, and *vice versa*. In the final analysis, a neighbourhood which ranks relatively high on each of the environmental dimensions would be deemed to be accepted, and

perceived, as having an overall satisfactory, livable and high quality environment. The results are presented in Table VIII.

It will be observed that the socio-economic dimension is excluded in the measurement of the perception of environmental quality. This is because the socio-economic variables are used as the explanatory variables in the analysis of the pattern of perception.

The study shows that Ugbowo is the neighbourhood with the highest quality of life; in which the greatest proportion of residents are relatively satisfied with the combination of its environmental variables. In other words, in terms of its combination of employment, housing, amenities, educational opportunities, the degree of pollution and socio-economic attributes, Ugbowo offers the greatest environmental satisfaction to its residents. The second most satisfying neighbourhood to its residents is Iyekogba, followed by Uzebu and Adesogbe. At the other

TABLE VIII

Benin city: Environmental quality as perceived by residents (level of satisfaction)

Neighbourhood	Employ-ment		Housing		Amenity		Education		Nuisance		Index overall
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	
Ugbowo	82	3	91	3	86	3	76	3	82	3	15
Uselu	56	16	86	6	59	7	81	2	62	8	39
Ikpoba	61	13	88	5	84	5	54	9.5	56	13.5	46
Okedo	42	19	68	10	42	21	64	5	61	9.5	64.5
Urubi	60	14	71	7	51	10.5	82	1	52	15	47.5
Uzebu	72	7	93	2	86	3	68	4	73	5	21
Idumwunivbiotor	11	21	69	9	62	6	46	19.5	89	2	57.5
Ihumwunidumwun	51	17	70	8	46	16.5	59	6	58	11	58.5
Oliha	63	11	66	11	50	12	51	13	46	18.5	65.5
Ogbelaka	78	4	59	14	49	12	49	15.5	51	16.5	63
Ugbeku	18	20	61	12.5	44	19	46	19.5	81	4	75
Adesogbe	76	5	89	4	86	3	43	21	72	6	39
Ibiwe	86	1	54	18	48	14.5	48	17	43	21	71.5
Iyekogba	74	6	98	1	100	1	52	11.5	96	1	20.5
Ewakpen	69	8	52	20	44	19	47	18	56	13.5	78.5
Evbuogida	49	18	61	12.5	52	9	54	9.5	63	7	56
Iguisi	63	11	54	18	48	14.5	56	8	57	12	63.5
Iwegie	59	15	55	16	51	10.5	58	7	61	9.5	58
Eguadase	63	11	56	15	54	8	49	15.5	48	20	69.5
Ogboka	84	2	51	21	46	16.5	50	14	46	18.5	72
Igbesamwan	68	9	54	18	44	19	52	11.5	51	16.5	74

extreme, the largest proportion of local residents are dissatisfied with the environmental structure and environmental variables of Ewaekpen, because it offers the least satisfying combination of employment, housing, amenities, educational opportunities, degree of pollution and socio-economic attributes. This is the neighbourhood with the lowest quality of life. Ewaekpen is followed by Ugbeku, Igbesamwa and Ogboka.

A comparison of Tables VII and VIII shows that Ugbowo comes first in terms of both the conceptual weighting of quality of life and livability in Benin City, and the perceptual evaluation of people. However, in ten neighbourhoods, the quality of life as perceptually evaluated by local residents is higher than as conceptually measured. The ten neighbourhoods that offer greater environmental satisfaction to their residents that theoretically expected are: Uselu, Urubi, Idumwunivbiotor, Adesogbe, Iyekogba, Evbuogida, Iguisi, Iwegie, Eguadase and Ogboka. The situation is the opposite in Ikpoba, Okedo, Uzebu, Ibiwe, Ihumwunidumwu, Oliha, Ogbelaka, Ugbeku, Ewaekpen and Igbesamwa.

Analyzing Tables VII and VIII against the background of the socio-economic structure of each neighbourhood, the following observations can be made. First, with respect to those neighbourhoods where the environment is perceived to be more satisfactory than theoretical expectations, there is a bifurcation of socio-economic characteristics; poor and affluent neighbourhoods are included in this category. The explanation for the affluent neighbourhoods could be that although they provide no employment and educational opportunities (often because of the rigid enforcement of development controls which zone out such landuses from the Government Residential Areas) and are consequently ranked very lowly on these dimensions, residents tend to place much greater premium on such other environmental dimensions as the provision of amenities, housing opportunities, and the absence of nuisances. In other words, the satisfaction that the affluent class derives from living in well serviced, quiet, pure and high quality residential neighbourhoods more than offsets whatever additional costs and inconveniences they incur through longer journeys to work and longer school trips.

With respect to the poor neighbourhoods, such as Iguisi, Eguadase,

and Ogboka, the explanation for why the residents see them as more environmentally satisfying than conceptually measured, is that although they are relatively crowded, and rather poorly serviced, the residents place greater premium on proximity to work, and on affordable low rental payments in central city, high-density, low-grade residential locations. In other words, proximity to work and affordable housing more than compensate for the noise and the lack of amenities in the neighbourhood.

With respect to those neighbourhoods whose overall environments are evaluated to be poorer than conceptually measured, again, a bifurcation of socio-economic attributes is recorded, although the pattern of preferences is different. For instance, although, Ugbeku, a new suburban neighbourhood offers cheap housing for the poor and although it is relatively quiet, the dissatisfaction expressed with respect to the lack of local job opportunities, the lack of educational opportunities, and the lack of amenities, more than offsets whatever housing opportunities are offered. In the same vein, the advantages of affordable housing and neighbourhood schools are more than offset by the lack of employment and amenities in Ihumwunidumwu.

All in all, the study shows that differences in the measurement and perception of neighbourhood environmental quality are attributable to the different weights that residents put on the various environmental variables. The study also shows that this differential weighting is related to differences in the socio-economic characteristics of the various neighbourhoods.

PLANNING AND POLICY IMPLICATIONS

The presence of a low quality environment in a neighbourhood often sets in motion certain changes that aggravate the low quality of that environment, and make it less likely that it will be upgraded without conscious intervention. This is so, because for various reasons, the unfettered forces of urban dynamics operate to encourage such cumulative trends.

However, our constitution provides for the right of the individual to have a decent ambience, no matter where he or she lives. Even from the economic point of view our planners and decision makers generally

owe it a duty to the populace to be concerned with any inequalities that exist in accessibility to the various parts of the city. From the point of view of management, there is also a real reason for concern with the quality of the neighbourhood. For instance, although low quality may initially be manifested in certain areas, experience shows that eventually the problem spills into other previously, relatively higher quality neighbourhoods. There is, therefore, an urgent need for urban authorities to intervene in the management of the city's environmental problems. It is against the background of this needed intervention, that the following planning and policy implications of the study are discussed.

Granting the variegated quality of life, the overall environment and livability in Benin City, it would require varying degrees, and kinds of upgrading, if all residents are to have decent ambience. The city becomes too large as a planning unit for the purpose of environmental planning and management. Consequently, we recommend the adoption of the neighbourhood as the planning unit. For the purpose of this recommendation, the neighbourhood is defined to be co-extensive with the quarter in Benin City, hence we are recommending twenty-one units for environmental planning and management in the city.

By being smaller than the city as a whole, the neighbourhood has among others, the advantage of being closer to the grassroots, and hence represents the spatial unit at which level local environmental need-gaps can be adequately articulated. The neighbourhood presents a milieu within which the peculiar mixes of environmental issues can be fully appreciated, and programme packages can be designed for tackling them.

An implication of the observed segregated nature of environmental problems in Benin City is that guided, rational spatial discrimination would be the most efficient strategy through which physical development planning can utilize the concept of the neighbourhood to selectively upgrade environmental quality and hence the quality of life. For instance, while environmental improvement in such central, older, traditional neighbourhoods as Igbesamwan, Ogboka, Ewaekpen, Iwegie, Ibiwe, and Iguisi, essentially means the maintenance of reliable, dependable and uninterrupted provision of basic environmental amenities, in such other unplanned, and unserviced peripheral neighbourhoods as Idumwunivbiotor, Ugbeku and Evbuogida, the above environmental

problems are compounded by the need to balance the number of residents on the one hand, with the number of local jobs, on the other.

It should be clear from our findings that the task of environmental planning in Benin City would be very involving, especially with regards to inventorying and supervision. This is where serious administrative problems are anticipated. The fears become more real when it is realised that the Environmental Sanitation Task Force (ESTF) recently set up by the present military government, to specifically clean up the city, does not seem to be able to cope, mainly because of the size of the city.

We, therefore, propose that for the purpose of environmental planning in Benin City, there should be a decentralization of administration. The present situation where one office administers development and environmental control in Benin City, is totally unacceptable. Accordingly, we propose that Benin City should be divided into three zones (map available from author), each to be administered under an Area Planning Officer (APO) as against the present single APO. However, as in the present arrangement, the APO's would still be answerable to the Chief Town Planning Officer (CTPO). The only modification is that each neighbourhood would be manned by field supervisors, who would be answerable to the APO.

The zones which may be designated simply as 1, 2 and 3 may be composed as follows:

1. Iyekogba, Adesogbe, Uzebu, Idumwimivbiotor and Ibiwe (5 neighbourhoods).
2. Ugbowo, Uselu, Evbuogida, Urubi, Iguisi and Oliha (6 neighbourhoods).
3. Ikpoba, Ewaekpen, Iwegie, Okedo, Eguadase, Ogboka, Igbesamwan, Ogbelaka, Ugbeku and Ihumwunidumwu (10 neighbourhoods).

It would be observed that the zonation utilizes the radial street pattern of Benin City. It would also be observed that each zone has its own (albeit varying) share of the different kinds of neighbourhoods (affluent and poor), with their associated characteristic mix of environmental problems. The proposed decentralization does not in any way complicate the overall planning machinery regarding environmental

planning. Rather, it makes the job of environmental development control easier, more purposeful, and result-oriented.

CONCLUSION

This study appreciates that with respect to most facets of environmental quality, rural areas are at the lower end of the urban size hierarchy. In this regard, however, the study shows that the quality of life, or of the overall environment and livability of the city is by no means monolithic. Rather, it is variegated along various dimensions or components of the urban environment. Differences in urban environmental quality could be the result of several factors, including the socio-economic attributes of the neighbourhoods and the responsiveness of planning to environmental eccentricities.

If urban environmental quality is to be improved, (even if only to give the individual his constitutional entitlement to a decent ambience), then the appropriate planning unit is the neighbourhood. This is so because each neighbourhood has its peculiar mix of environmental problems, and correspondingly requires its peculiar mix of action programmes. However, if neighbourhood environmental planning is to be effective and responsive to environmental need-gaps, there is an urgent need to decentralize the machinery for development control in Benin City.

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