



Environmental Condition Determinants of Neighbourhood Quality in Urban Communities of Yenagoa City, Nigeria

Eyenghe Tari

Rivers State University, Port Harcourt, Nigeria.
Email: t.eyenghe@gmail.com

Wokekoro Ebiwari, PhD

Rivers State University, Port Harcourt, Nigeria.
E-Mail: ebi_wokekoro@yahoo.com

Abstract

The study assessed environmental condition determinants of neighbourhood quality in urban communities of Yenagoa City, Nigeria. The study identified environmental conditions that determine neighbourhood quality in urban communities of the study area; assessed impacts of environmental condition determinants of neighbourhood quality in urban communities of the study area; and suggested appropriate and sustainable urban policy framework that will improve neighbourhood quality in urban communities of the study area. A total of 399 respondents were selected for interview and distributed proportionately across 6 studied communities using simple random and key informant approach. A structured questionnaire with closed and opened-ended questions were used to obtain data for the study. Data from the study revealed that building structure, habitable space, access road, public health and sanitation condition, waste management and environmental pollution are environmental condition determinants of neighbourhood quality in the study area. The study found that most residential buildings are rooming housing and block of flats with high occupancy rate and multiple households, lacking public water supply, access roads and drainages, poor refuse and sewage disposal methods, increasing environmental pollution from noise, domestic and commercial effluences discharge, smoke from generator and automobiles and lack of planning of the communities resulting to poor environmental condition degrading the neighbourhood quality of communities in the study area. The study suggested that government should empower BSPPDB and BSME legally and politically to enforce urban planning policies, regulations and standards and public health and environmental edicts; prepare neighbourhood development plans and schemes to enhance neighbourhood quality and; and strengthen development control activities through legislative process.

Keywords: Environmental condition determinants, neighbourhood quality, urban communities

Introduction

Neighbourhood quality enhances quality of life of residents of urban areas (El Din and Elariane, 2013). This is determined by several environmental condition indicators that determines neighbourhood quality (Chaguetmi and Derradji, 2020). In recent times many urban neighbourhoods and communities are faced with environmental challenges which have affected general urban and neighbourhood quality and this condition is prevalence in urban areas of developing countries. These environmental conditions cover residential buildings, potable water supply and basic sanitation, energy supply and consumption, waste management, landscape and transportation (access roads and other road infrastructure) aspects of

urban life (Chaguetmi and Derradji, 2020). These aspects of urban environment are used as indicators to prepare framework for measuring and assessing neighbourhood quality by residents and experts to determine its quality and sustainability (Delsante, 2016).

Neighbourhood quality consist of physical, economy and social aspects of the urban area which constitute the sense of community and place attachment (Rahman, Omar and Salleh, 2012; Gilani et al., 2020). These three aspects of urban area determine the quality of a neighbourhood and demonstrates the level of satisfaction of residents of a neighbourhood and their well-being. The neighbourhood quality of Yenagoa City, Nigeria has been put to question by many scholars, academia, and urban planning and management experts concerning the its quality and sustainable levels to its inhabitants and government. The neighbourhood quality of urban communities in the city has portrayed poor environmental quality which has continue to define the quality of neighbourhoods, urban communities and city environment. This is observed in building quality and services, access roads, water supply, public health and sanitation conditions and waste management methods employed in the city. Persistence of these environmental conditions is degrading the neighbourhood quality of urban communities and affecting quality of life of residents.

These aspects of the neighbourhood are associated with environmental conditions and are indicators for assessing the neighbourhood quality of urban communities of Yenagoa City. This study is focused on environmental condition determinants for assessing neighbourhood quality of urban communities in the Yenagoa City and provide sustainable approach that will enhance the quality of the neighbourhoods of the urban communities in the city to improve residents living conditions and well-being.

Research Objectives

Specific objectives of the study are to:

1. Identify environmental conditions that determine neighbourhood quality in urban communities of the study area;
2. Assess impacts of environmental condition determinants of neighbourhood quality in urban communities of the study area; and
3. Suggest appropriate and sustainable urban policy framework that will improve neighbourhood quality in urban communities of the study area.

Literature Review

Environmental determinants of neighbourhood quality

According to Rahman *et al* (2012) the concept of neighbourhood is referred to physical boundary where people lead their private lives. This condition consists of the totality of a residential landuse with its accompanying embodiment that brings satisfaction to the dwellers. This aspect covers physical, social and economic conditions of what defines the concept of a neighbourhood (Rahman *et al*, 2012). Residential neighbourhood is found within the environment and the concept environment is defined as the circumstances, objects or conditions by which one is surrounded including biotic and abiotic features (Merriam-Webster Dictionary, 2018). All these features influence life of an individual and society that we live. This study is concern about environmental conditions that are indicators that make the constituent of a neighbourhood to determine its quality. Environmental condition covers all aspects of the neighbourhood including physical, social and economic as the indicators are drawn from these three aspects of the residential neighbourhood (Vafaei and Alvarado, 2016; Waheed et al., 2020).

Physical features that are considered as environmental indicators for assessing residential neighbourhood quality include housing and habitable space, water and sanitation, pollution, level of urbanisation, open and green space availability, traffic and transportation. Social features are health, education, crime and security, culture and religion while economic features consist of employment and income (Groenewegan and Dijst, 2017). All these features are combined to create relationship that will

enhance the quality of a neighbourhood as they also determine quality of life and well-being of individuals and society. The aggregation of these features after assessment validate neighbourhood quality as perceived by individual differences and objectivity of experts in the society (de Jong, Albin, Bjork, Skarback, Grahn, Wadbro and Merlo, 2011).

Impacts and issues of environmental determinants of neighbourhood quality

Environmental condition determines neighbourhood quality and quality of life in any living environment in all ramifications (Fattah, Badarulzaman and Ali, 2015). These determinants impact on urban residents and the environment in its totality as it is assessed and perceived individuals and experts. These conditions expose the environment of the neighbourhood quality and have several impacts on the neighbourhood and its inhabitants. According to Galster (2014) such impacts include housing condition, air and water quality, health, social interaction and networking, transport system and socio-economic condition.

The impacts identified that determines neighbourhood quality by environmental determinants produce both positive and negative impacts depending on how urban affairs associated to these determinants are handled by urban managers, urban planners, politicians and other urban stakeholders. Positive impacts of environmental determinants of neighbourhood quality include better housing condition with essential infrastructure and services, improved air and water quality, adequate and accessible healthcare, improved social cohesion and inclusiveness, efficient public transport system and improved local economy that guarantee employment and livelihood system. These conditions indicate improve quality of life and social well-being of residents and the society (Sirgy and Cornwell, 2002; Gilani et al., 2020). Negative impacts of environmental determinants on neighbourhood quality portray poor housing and living condition, poor public health and sanitary condition leading to spreading diseases and sicknesses, emanating pollution of all kinds from domestic and commercial activities, increasing crime and violent activities from inadequate social interaction and joblessness in the neighbourhoods of the urban area. This decreases neighbourhood quality and acceptability by residents and the society (Eurostat, 2019). All these scenarios define the quality of a neighbourhood and the perception of residents towards sustainability and adaptability as residents may have differ perception based on their ability to interact with the living environment (Eyenghe and Samuel, 2020).

Methodology

Research Design

The study employed a Mixed Methods Research (MMR) approach which concurrent triangulation research design was used for collection of data. The study targeted both residents of urban communities and key informants (experts) in environmental management and neighbourhood planning of Yenagoa City, Nigeria. The sample of the study consist of 399 respondents that were determined using Taro Yamane formula and were proportionally distributed across selected sampled communities for the study. The study used simple random sampling technique to select respondents that was interviewed in the study (see Table 1). Key informant interview schedule of staff of Bayelsa State Physical Planning Development Board (BSPPDB) and Bayelsa State Ministry of Environment (BSME), experts such as Town Planners and Public Health and Environmental Officers were interviewed. Secondary data were collected from BSPPDB and BSME of environmental condition determinants of neighbourhood quality in urban communities of the study area.

Instruments

Primary and secondary data were collected from residents of communities of the study area, government officials and experts through questionnaire administration (closed and open-ended questionnaires), interview schedules and physical observations to assess environmental condition determinants of neighbourhood quality in urban communities of the study area. Tables and charts were used to present

and analysed data collected from the study area show percentile, mode and range of respondents' opinions on environment condition and neighbourhood quality of the study area.

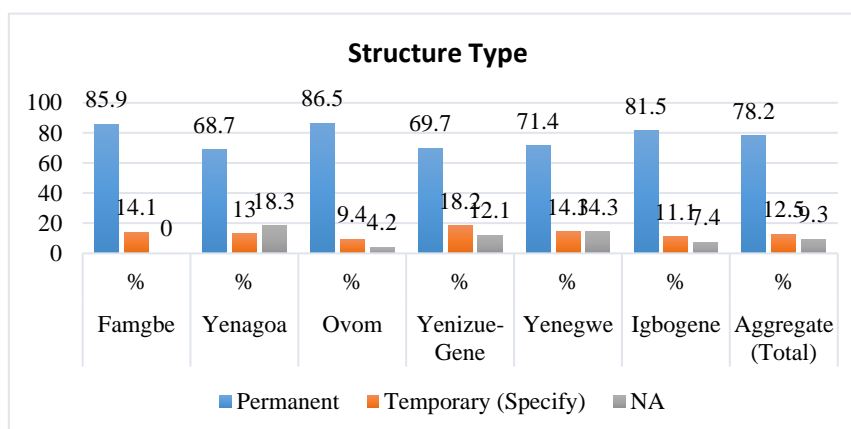
Table 1*Determination of sample size for the study*

S/No.	Sampled Communities	1991 Population	2019 Population (Projected Using 6.5% Growth Rate)	No. of Households (HH) (5 Persons per HH)	No. of Households Sampled in the Communities
1	Famgbe	5,229	30,490	6,098	78
2	Yenagoa	8,723	50,864	10,173	131
3	Ovom	6,320	36,852	7,370	96
4	Yenizue-Gene	2,086	12,164	2,433	33
5	Yenegwe	473	2,758	552	7
6	Igbogene	3,536	20,618	4,124	54
	Total	26,367	153,746	30,750	399

Source: NPC, 1991; NPC, 2018; NBS, 2016; Researcher's Fieldwork, 2019

Results

Identified environmental condition determinants of neighbourhood quality

**Fig. 1:** Structure type of respondents

Source: Researcher's Fieldwork, 2019

Fig. 1 shows the structure type of buildings in the study area. The data from fig. 1 in the aggregate showed that 78.2% of the structure are permanent, 12.5% of the structures are temporary in nature. The fig. showed that Yenizue-Gene and Yenagoa communities permanent structures are 69.7% and 68.7% which are the least while Ovom and Famgbe communities have the highest permanent structures which are 86.5% and 85.9% respectively.

Table 2*Type of building*

Type of Building	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Rooming house	51	65.4	68	51.9	42	43.8	11	33.3	4	57.1	21	38.9	197	49.4
Block of flats	17	21.8	39	26	30	31.3	14	42.4	3	42.9	17	31.5	115	28.8

Bungalow (standalone)	3	3.8	18	13.7	8	8.3	3	9.1	0	0	9	16.7	41	10.3
Bungalow (semi-detached)	7	9.0	1	0.8	3	3.1	1	3	0	0	1	1.9	12	3
Storey building (detached)	0	0	0	0	4	4.2	1	3	0	0	1	1.9	6	1.5
Storey building (semi-detached)	0	0	0	0	2	2.1	1	3	0	0	0	0	4	1
Others (specify)	0	0	0	0	0	0	0	0	0	0	2	3.2	2	0.5
NA	0	0	10	7.6	7	7.3	2	6.1	0	0	3	5.6	22	5.5
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 2 present the type of buildings in the study area. The data from table 2 reflects from the aggregate that 49.4% of the buildings are rooming house, followed by block of flats recording 28.8% and bungalow (standalone) represent 10.3%. Other types of buildings identified from survey include bungalow (semi-detached) which is 3%, storey building (detached) 1.5%, storey building (semi-detached) 1% and 0.5% for others (thatched and mud houses). From the table Famgbe, Yenegwe and Yenagoa communities have more rooming houses that is 65.4%, 57.1% and 51.9% respectively while Yenegwe, Yenizue-Gene and Igbogene communities have more of block of flats representing 42.9%, 42.4% and 31.5% respectively.

Table 3

Ownership of building

Building Ownership	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Owner occupier	44	56.4	44	33.6	21	21.9	14	42.4	3	42.9	23	42.6	149	37.3
Renter	33	42.3	78	59.5	71	74	18	54.5	4	57.1	31	57.4	235	58.9
Other (specify)	1	1.3	0	0	0	0	0	0	0	0	0	0	1	0.3
NA	0	0	9	6.9	4	4.2	1	3	0	0	0	0	14	3.5
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 3 shows ownership of building in the study area. The data in table 3 from the aggregate presented showed that 58.9% of the building occupants are renters, 37.3% of the buildings occupants are owner occupiers while others represent 0.3% which are squatters. The showed that only Famgbe community has more than 50% of her building occupants are owner occupiers (56.4%).

Table 4

Number of household in building

No. of HH in Building	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1	13	16.7	8	6.1	7	7.3	3	9.1	3	42.9	1	1.9	42	10.5

2-3	36	46.2	31	23.7	25	26	9	27.3	0	0	15	27.8	111	27.8
4-6	17	21.8	51	38.9	32	33.3	15	45.5	3	42.9	23	42.6	141	35.3
7-9	5	6.8	14	10.9	19	19.8	4	12.1	1	14.3	8	14.8	48	12
10+	7	9	17	13	6	6.3	1	3	0	0	4	7.4	39	9.8
NA	0	0	10	7.6	7	7.3	1	3	0	0	3	5.6	18	4.5
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 4 indicates the number of households in building in the study area. The aggregate from table 4 showed that 4-6 households live in a building representing 35.3%, followed by 2-3 households occupying a building representing 27.8% and 12% representing 7-9 households. Other records from the table showed 10.5% and 9.8% are 1 household and 10+ households respectively are the least.

Table 5

Number of persons in household

No. of Persons in HH	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1 pers.	4	5.1	12	9.2	3	3.1	1	3	1	14.3	1	1.9	22	5.5
2-3 pers.	20	25.6	29	22.1	17	17.7	8	24.2	1	14.3	15	27.8	90	22.6
4-6 pers.	44	56.4	69	52.7	40	41.7	22	66.7	2	28.6	23	42.6	200	50.1
7-9 pers.	7	9	12	9.2	23	24	0	0	3	42.9	8	14.8	50	13.8
10+ pers.	3	3.8	8	6.1	6	6.3	0	0	0	0	4	7.4	21	5.3
NA	0	0	1	0.8	7	7.3	2	6.1	0	0	3	5.6	11	2.8
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 5 present the number of persons in a household in the study area. The data in table 5 from the aggregate showed that 50.1% of the households have 4-6 persons, followed by 22.6% of the households having 2-3 persons while 13.8% of the households have 7-9 persons. The data showed that few households have 1 person and 10+ persons representing 5.5% and 5.3% respectively which are the least.

Table 6

Habitable spaces (rooms) occupied in building

Habitable Spaces (Rooms)	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1 room	15	19.2	35	26.7	32	33.2	9	27.3	2	28.6	22	40.7	115	28.8
2-3 rooms	41	52.6	63	48.1	54	56.3	19	57.6	3	42.9	25	46.3	208	51.4
3-4 rooms	9	11.5	8	6.1	7	7.3	3	9.1	1	14.3	5	9.3	33	8.3
5-6 rooms	6	7.7	2	1.5	1	1	0	0	1	14.3	2	3.7	12	3
7+ rooms	7	9	4	3.1	2	2.1	0	0	0	0	0	0	13	3.3
NA	0	0	19	14.5	0	0	2	6.1	0	0	0	0	21	5.3
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 6 revealed the habitable spaces (rooms) occupied in building by households in the study area. The data in table 6 from the aggregate indicated that 50.4% of the households occupied 2-3 rooms, followed by 28.8% of the households occupied 1 room while 8.3% of the households occupied 3-4 rooms. The data showed that some households 7+ rooms and 5-6 rooms representing 3.3% and 3% respectively which are the lowest from record.

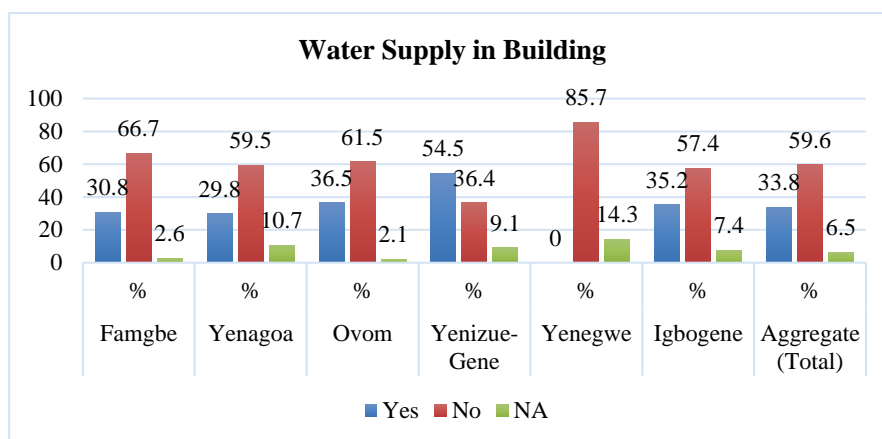


Fig. 2: Water supply in building
Source: Researcher's Fieldwork, 2019

Fig. 2 shows availability of water supply in building in the study area. The aggregate from the data in fig 2 showed that 59.6% of the buildings don't have water supply while 33.8% of the building have water supply. Yenegwe community has the highest record of not having water supply in the buildings representing 85.7% while Yenizue-Gene has the most record of building having water supply representing 54.5%.

Table 7: Source of water supply in building

Source of Water Supply	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Public mains	3	3.8	6	4.6	4	4.2	18	54.5	2	28.6	8	14.8	39	9.8
Private borehole	38	48.7	44	33.6	37	38.5	11	33.3	0	0	17	31.5	144	37.3
Water vendor	30	38.5	60	45.8	47	49	0	0	5	71.4	18	33.3	160	40.1
Water tanker vehicle	2	2.6	0	0	0	0	0	0	0	0	0	0	2	5
Well	1	1.3	0	0	5	5.2	0	0	0	0	1	1.9	7	1.8
Rainfall	2	2.6	6	4.6	2	2.1	0	0	0	0	0	0	10	2.5
River/creek/stream	2	2.6	2	1.5	1	1	1	3	0	0	1	1.9	7	1.8
Others (specify)	0	0	5	3.8	0	0	0	0	0	0	0	0	5	1.3
NA	0	0	8	6.1	0	0	3	9.1	0	0	9	16.7	20	5
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 7 revealed the sources of water supply in buildings in the study area. The data from the aggregate in table 7 showed that 40.1% of the buildings source of water supply is water vendor and closely followed by private borehole representing 37.3% while 9.8% is through public water mains. Other sources of water supply recorded are water tanker, rainfall, well and river/creek/stream and others (mono pump) representing 5%, 2.5%, 1.8% and 1.3% respectively. Yenegwe community has the highest record of water vendor water supply source which is 71.4% while other communities all have private boreholes across the communities.

Table 8*Sewage disposal method*

Sewage Disposal Method	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Water closet	25	32.1	59	45	46	47.9	18	54.5	3	42.9	28	51.9	28	51.9
Pit toilet	2	2.6	2	1.5	9	9.4	0	0	0	0	2	3.7	2	3.7
Pier latrine	14	17.9	8	6.1	10	10.4	3	9.1	1	14.3	3	5.6	3	5.6
Pour flush	33	42.3	49	37.4	25	26	6	18.2	3	42.9	18	33.3	18	33.3
Bush	4	5.1	4	3.1	3	3.1	0	0	0	0	1	1.9	1	1.9
NA	0	0	9	6.9	3	3.1	6	18.8	0	0	2	3.7	2	3.7
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 8 shows the sewage disposal methods available in the study area. The data from table 8 showed in the aggregate that 51.9% of the residents used water closet, followed by 33.3% used pour flush method while 5.6% used pier latrine. Other sewage disposal methods revealed in the study area used by residents are pit toilet and bush (open defecation) representing 3.7% and 1.9% respectively. Most communities recorded bush sewage disposal method and only Yenizue-Gene and Yenegwe communities does not have the record of bush method.

Impacts of environmental condition determinants on neighbourhood quality**Table 9***Prevailing illness in community*

Prevailing Illness	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Malaria	32	41	49	37.4	42	43.8	10	30.3	3	42.9	15	27.8	151	37.9
Typhoid	21	26.9	31	23.7	22	22.9	8	24.2	1	14.3	8	14.8	91	22.8
Cholera	14	17.9	18	13.7	11	11.5	6	18.2	2	28.5	12	22.2	63	15.8
Diarrhoea	8	10.3	15	11.5	13	13.5	5	15.2	1	14.3	6	11.1	48	12
Others (specify)	3	3.9	18	13.7	8	8.3	4	12.1	0	0	13	24.1	46	11.5
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 9 reveals the prevailing illness in the communities of the study area. The data from table 9 in the aggregate revealed that malaria is the most prevailing illness suffered by residents of the communities representing 37.9%, followed by 22.8% indicating typhoid while 15.8% suffered cholera. Other prevailing illnesses are diarrhoea and other (dysentery, pneumonia, fever, arthritis and heart related diseases) representing 12% and 11.5% respectively.

Table 10*Mortality rate in community*

Mortality Rate	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Very low	35	44.9	1	0.8	2	2.1	0	0	1	14.3	0	0	39	9.8
Low	25	32.1	4	3.1	8	8.3	0	0	0	0	1	1.9	38	9.5
Uncertain	10	12.8	16	12.2	23	24	8	24.2	2	28.6	5	9.3	64	16
High	2	2.6	44	33.6	36	37.5	12	36.4	4	57.1	14	25.9	112	28.1

Very high	1	1.3	27	20.6	23	24	9	27.3	0	0	28	51.9	88	22.1
NA	5	6.4	39	29.8	4	4.2	4	12.1	0	0	6	11.1	58	14.5
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 10 shows mortality rate in communities of the study area. The data from table 10 showed that the aggregate 28.1% of residents rate the mortality in the community as high, followed by 22.1% rating as very high while 16% are uncertain. Others rate the mortality as very low and low representing 9.8% and 9.5% respectively. Igbogene, Yenizue-Gene, Ovom and Yenagoa communities' mortality rating is very high and high.

Table 11

Waste disposal method

Waste Disposal Method	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Authorised dumping site	3	3.8	69	52.7	58	60.4	10	30.3	2	28.6	9	16.7	151	37.8
House-to-house collection	3	3.8	16	12.2	15	15.6	8	24.2	1	14.3	1	1.9	44	11
Dig hole and bury	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Burning	7	9	2	1.5	1	1	0	0	0	0	4	7.4	14	3.5
Bush	15	19.2	9	6.9	4	4.2	0	0	0	0	3	5.6	31	7.8
Dump into water body	19	24.4	4	3.1	2	2.1	2	6.1	0	0	7	13	34	8.5
Dump on road side	23	29.5	14	10.7	4	4.2	0	0	3	42.9	25	46.3	69	17.3
Others (specify)	8	10.3	17	13	12	12.5	9	27.3	0	0	5	9.3	51	12.8
NA	0	0	0	0	0	0	4	12.1	1	14.3	0	0	5	1.3
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 11 indicates waste disposal methods used in communities of the study area. From table 11 of the data presented in the aggregate showed that 37.8% of the residents disposed their wastes in authorised dumping sites, followed by 17.3% which dumped their wastes on road side while 12.8% used other unconventional methods. Other waste disposal methods recorded include house-to-house, dump into water body, bush and burning representing 11%, 8.5%, 7.8% and 3.5% respectively. No community record employing dig hole and bury method of waste disposal in the study area. Ovom and Yenagoa communities recorded the highest used of authorised dump sites representing 60.4% and 52.7% respectively for waste disposal.

Table 12

Rating of environmental condition of community

Rating of Environmental Condition	Famgbe		Yenagoa		Ovom		Yenizue-Gene		Yenegwe		Igbogene		Aggregate (Total)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Very bad	12	15.4	2	1.5	36	37.5	0	0	0	0	3	5.6	109	27.3
Bad	21	26.9	16	12.2	32	33.3	9	27.3	3	42.9	16	29.6	122	30.6

Uncertain	3	3.8	11	8.4	11	11.5	1	3	0	0	5	9.3	32	8
Good	37	47.4	41	31.3	13	13.5	9	27.3	1	14.3	27	50	105	26.3
Very good	1	1.3	58	44.3	2	2.1	10	30.3	3	42.9	1	1.9	6	1.5
NA	4	5.1	3	2.3	2	2.1	4	12.1	0	0	2	3.7	25	6.3
Total	78	100	131	100	96	100	33	100	7	100	54	100	399	100

Source: Researcher's Fieldwork, 2019

Table 11 shows the rating of environmental condition of communities in the study area. From table 11 the data showed that 30.6% of the residents rate the environmental condition of the communities as bad, closely followed by 27.3% and 26.3% representing very bad and good as rated by residents. Other residents rate the environmental condition of the communities as uncertain and very good representing 8% and 1.5% respectively.

Discussion of Findings

Identified environmental condition determinants of neighbourhood quality

The study has identified some indicators which are environmental condition determinants of neighbourhood quality of the study area. These environmental conditions determinants include building structure and habitable space, public health and sanitation condition and waste management and environmental pollution. Building and structure condition as a major environmental condition determinants of neighbourhood quality from the study revealed that 78.2% of buildings are permanent structures while 12.5% of the buildings are temporary structures. Most of these structures are rooming housing, block of flats and bungalows (standalone) accounting for 49.4%, 28.8% and 10.3% respectively. Other structure types identified by the study bungalow (semi-detached) 3%, 1.5% are storey building (detached) and 1% are storey building (semi-detached). Thus, 58.9% of these buildings are occupied by renters while 37.3% of the occupants are owner occupiers and 0.3% are squatters in the buildings (see Fig. 1, Tables 2 & 3). The study identified that most of buildings are occupied by an average of 4-6 and 2-3 households, though some buildings are occupied by 7-9 and 10+ households, only few are occupied by 1 household that is the standalone bungalows. Over 72% of the households have an average of 4-6 and 2-3 persons, few households have an average of 7-9, 1 and 10+ persons occupying habitable spaces of mostly 2-3 rooms and 1 room in the buildings of the study area (see Tables 4, 5 & 6).

Other environmental condition determinants as revealed by the study are public health and sanitation condition of the study area. The study revealed that most of the buildings don't have public water supply in them. The residents source from other water supply sources which are mostly water vendors (40.1%) and private boreholes (37.3%) provided in the buildings. Other sources as revealed by the study include water tanker vehicles, rainfall, well and rivers/creeks/streams representing 9.8%, 5%, 1.8% and 1.8% and 1.3% respectively (see Fig. 2). Other public health determinant is waste management method in the study area. The study revealed that most residents disposed their wastes in authorised dumped sites, dump on road sides, house-to-house collection, dumped into waterbodies, bush and burning. Sewage disposal methods as used in the study area as revealed include water closet 51.9%, pour flush 33.3%, pier latrines 5.6%, pit toilets 3.7% and bush (open defecation) 1.9% (see Tables 7 & 8). The study revealed that another determinant is environmental pollution. The study showed that pollution sources are from domestic, commercial and industrial activities from generators and mechanical activities (noise, smoke and dust particle), domestic and commercial wastes and effluences (waste water and sludge) and carbons from vehicles and motorised machineries. These are identified environmental condition determinants as revealed by the study in the study area.

Impacts of environmental condition determinants on neighbourhood quality

There are several environmental condition determinants revealed by the study that have impacts on neighbourhood quality of the study area. These impacts are both positive and negative to the communities and its inhabitants of the study area. The study has revealed that most of the buildings are permanent structures which is a positive impact on neighbourhood quality. However, there are records of building that are temporal in nature which are inhabited by squatters which is negative affecting the

neighbourhood quality of the communities of the study area. Generally, most of the buildings are occupied by renters and reflects high occupancy rate from the habitable spaces households are occupying with an average of 2-3 rooms and 1 room per household and overcrowding of an average of 4-6 and 2-3 persons in a household. Most buildings have multiple households (families) occupying them with an average of 4-6 and 2-3 households. But many buildings have 7-9 and 10+ households occupying them. The study revealed that building structures are mostly rooming housing and block of flats and the communities are not planned or and well laid-out lacking adequate access roads setbacks and functional drainages. These conditions have impacted negatively on the neighbourhood quality of the communities in the study area.

Lacking of urban planning and management exhibited by communities in the study area reflect on public health and sanitation challenges in the city. Many infrastructure and services are not provided that will support public health and sanitation activities in the communities. Most of the households' source water for domestic use from unhygienic and poor sanitary conditions as the water are not treated and scientifically satisfied for consumption and other domestic uses. The poor waste and sewage disposal methods employed by many residents, businesses and industries are unsafe, unhygienic and unsustainable to the environment and inhabitants which have negatively impacts on the neighbourhood quality of communities of the study area (see Tables 8 & 11). These unsafe, unhygienic and unsustainable methods employed in the study area by residents, businesses and industries have caused environmental degradation from noise, air and water pollution in the environment resulting to prevailing illness in communities such as malaria, typhoid, cholera, diarrhoea and other sicknesses and diseases (dysentery, pneumonia, fever, arthritis and heart related diseases) which are promoted by poor environmental conditions (see Table 9).

These conditions have increased the mortality rate of the study area from experts and residents' assessment as high. These conditions have made 30.6% and 27.3% of the residents to rate the environmental conditions of the communities from their assessment as bad and very bad, though, 26.3% rate the environmental condition as good. The rating of the environmental condition of the study area reflects on neighbourhood quality of communities of the study area. condition by the residents. All these impacts identified have determined environmental conditions of neighbourhood quality of communities in the study area (see Tables 11 & 12).

Conclusions

Neighbourhood quality of an urban area is essential to quality living and environment and this is determined by some environmental conditions. The study revealed that building structures are mostly permanent of more rooming housing and block of flats buildings with high occupancy rate and multiple households occupying a building. The average habitable spaces occupied by households are 2-3 rooms and 1 room with an average of 4-6 and 2-3 persons per household resulting to overcrowding. The unplanned nature and poor urban management of communities have made the study area to lack critical urban infrastructure and services such as access roads and drainages, affecting public health and environmental sanitation conditions. The study revealed that there are lack of public water supply and unsafe, unhygienic and unsustainable wastes disposal methods which have increase mortality rate, sicknesses and diseases and pollution problem in the study area resulting to environmental degradation which have impacted on the neighbourhood quality of the study area. There is need to improve on environmental condition determinants identified to enhance the neighbourhood quality of communities of Yenagoa City to improve living standard and environmental well-being of residents and the city. Therefore, the study has suggested sustainable urban planning and environmental policy framework to enhance environmental condition determinants of neighbourhood quality of communities of the study area.

Recommendations

For improvement of environmental condition determinants of neighbourhood quality of urban communities in Yenagoa City, Nigeria the following recommendations are suggested. Firstly, review and implementation of the Yenagoa Master Plan, 2004 to achieve sustainable urban planning and management in communities of the study area. Secondly, empower BSPPDB and BSME legally and politically to enforce urban planning policies, regulations and standards and public health and environmental edicts of the city to enhance environmental conditions of communities to improve residents well-being. Thirdly, assessment of communities to prepare neighbourhood development plans and schemes to provide lacking urban infrastructure and services that will enhance neighbourhood quality and environmental conditions. Fourthly, enhancement of environmental conditions in the study area that will promote good neighbourhood quality through provision and upgrading existing infrastructural facilities and services such as access roads, drainages and water supply. Lastly, strengthen development control activities through legislative process, funding and training of workforce to carry out development control activities that will control, guide and manage urban growth and development in the study area to discourage formation of squatters and slums.

References

- Chaguetmi, F & Derradji, M. (2020). Assessment of the Environmental Quality of Neighbourhoods in the Context of Sustainable Development: Case of Plain West in Annaba, Algeria. *Environment, Development and Sustainability*, 22, 4563-4588. DOI: <https://doi.org/10.1007/s10668-019-00398-1>
- de Jong, K., Albin, M., Bjork, J., Skarback, E., Grahn, P., Wadbro, J. & Merlo, J. (2011). Area-aggregated Assessments of Perceived Environmental Attributes May Overcome Single-source Bias in Studies of Green Environments and Health: Results from a Cross-Sectional Survey in Southern Sweden. *Environ Health*, 10(4). DOI: <https://doi.org/10.1186/1476-069x-10-4>
- Delsante, I. (2016). Urban Environmental Quality Assessment Using a Methodology and Set of Indicators for Medium-Density Neighbourhoods: A Comparative Case Study of Lodi and Genoa. *Ambient Constr.*, 16(3). DOI: <https://doi.org/10.1590/s1678-862120160003000089>
- El Din, H.S. & Elariane, S.A. (2013). Principles of Urban Quality of Life for A Neighbourhood. *HBRC Journal*, 9(1), 86-92. <https://doi.org/10.10116/j.hbrcj.2013.02.007>
- Eurostat (2019). *Quality of Life Indicators – Natural and Living Environment*. Retrieved from <https://ec.europa.eu> [Accessed 12/09/2019].
- Eyenghe, T. & Samuel, D. (2020). Physical Condition Determinants of Quality of Life in Selected Communities in Yenagoa City, Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS)*, 4(5), 246-255.
- Fattah, H.A., Badarulzaman, N. & Ali, K. (2015). Factors Affecting Neighbourhood Quality: A Conceptual Framework. *Advances in Environmental Biology*, American-Eurasian Network for Scientific Information, p 26.
- Groenewegan, P.P. & Dijst, M. (2017). Neighbourhood Social and Physical Environment and General Practitioner Assessed Morbidity. *Health & Place*, 49, 68-84. DOI: <https://doi.org/10.1016/j.healthplace.2017.11.006>
- Galster, G. (2014). *How Neighbourhoods Affect Health, Well-being, and Young People Future*. Chicago, Illinois, USA: MacArthur Foundation.
- Gilani, N., Waheed, S. A., Hussain, B. (2020). Multiculturalism and Integration: Challenges, Strategies and Prospects of Students' Integration in Educational Environment and Society. *Global Social Sciences Review*, 5(2), 174-181.

- Gilani, N., Waheed, S. A., Thakur, I., Zafar, S. (2020). What do university students talk about in leisure time? Students' reflections on their personal and academic life. *Psychology and Education*, 57(5), 368-374.
- Merriam-Webster Dictionary (2018). *Definition of Environment*. Retrieved from <https://www.merriam-webster.com> [Accessed 18/03/2019].
- National Population Commission (NPC) (2018). *NPC Puts Nigeria's Population at 198 Million*. Retrieved from <https://www.vanguardngr.com/2018/04/npc-puts-nigerias-population-198m/> [Accessed 27/02/2019].
- National Population Commission (NPC). (1991). *1991 Population Census Report of Nigeria*. Lagos, Nigeria: Federal Government Press.
- Rahman, N.A., Omar, D. & Salleh, A.G. (2012). Determinant Factors of Neighbourhood Quality. *Planning Malaysia Journal*, 10. DOI: <http://dx.doi.org/10.21837/pm.v10i3.98>
- Sirgy M.J. & Cornwell, T. (2002). How Neighbourhood Features Affect Quality of Life. *Social Indicators Research*, 59(1), 79-114.
- United Nations (UN) (2018). *UN: 68 Percent of World Population Will Live in Urban Areas by 2050*. Retrieved from <https://m.phys.org/.../2018-05percent> [Accessed 12/12/2018].
- Vafaei, A. & Alvarado, B.E. (2016). Neighbourhood Social and Built Environment Factors and Fall in Community-Dwelling Canadian Older Adults: A Validation Study and Exploration of Structural Confounding. *SSS – Population Health*, 2, 468-475. DOI: <https://doi.org/10.1016/j.ssmph.2016.06.003>
- Waheed, S. A., Gilani, N., Raza, M., Sharif, S. (2020). Understanding Students' Experience of Lived Space in Schools: A Phenomenological Perspective. *Hamdard Islamicus*, 43(1), 211-220.