LIVABILITY AND RESIDENTS ATTACHMENT TO A TYPICAL NIGERIAN RIVERINE SETTLEMENT

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Abstract
The study examined urban livability and place attachment in the riverine settlement of Makoko, Lagos state, Nigeria. The multistage sampling technique was used to collect primary data from residents. Six neighbourhoods with the most homes or buildings were randomly chosen for questionnaire administration without replacement. Only 465 (53.8%) questionnaire were retrieved and analyzed. The data was analyzed using both inferential and descriptive statistics. The study found that the completeness of supporting amenities impacts overall satisfaction with livability, followed by transportation convenience and environmental health, even if urban security plays a crucial role in livability. The findings revealed that place dependence, finances, sense of place and social connection, accounting for 24.468%, 17.453%, 15.733% and 11.247%, respectively, influenced residents' decisions to live in riverine villages despite poor living conditions. The study concluded that combining the environment's objective aspects and the inhabitants' subjective perceptions is necessary to achieve people-oriented livability. The study recommended shifting high-quality public resources towards riverine and coastal areas to promote spatial justice and social equity.

Keywords: urban livability, place attachment, riverine, livable environment, quality of life

1. Introduction

In the global south, notably Nigeria, the laissez-faire approach to spatial planning jeopardizes emotional relationships between people and place, undermining inhabitants' perception of it as an excellent place to live. In the context of this research, the riverine settlement of Makoko, also known as the "Venice of Africa," in its physical development aspect, is not well-planned regarding accessibility, aesthetics, legibility, and facilities. Indeed, insecurity is dominant; access to health services and education facilities is limited, and inequality of opportunities and employment is generally informal. Population growth has consistently outpaced the development of infrastructure provision and facilities. Consequently, there is a significant strain on the physical infrastructure and community facilities, posing livability problems. Although inhabitants feelings or wishes determine the degree of the livability of a location, Makoko residents' rationale for residing there is questionable because accessibility and safety, essential urban planning criteria for identifying a livable place, are missing. It is currently unknown why Makoko residents prefer to live in these communities. Examining and understanding the reasons or consequences of their decision to stay is increasingly imperative. Various techniques have also been proposed to address these concerns, including quality of life, well-being, social sustainability, and urban quality of life (or livability), for which they are used as synonyms.

According to Mouratidis (2018), settlements that promote the well-being of all residents would be considered livable. In light of this, Benita et al. (2021) opined that livable communities are not the work of chance: they are deliberately created by urban planning, considering the short and long term and focusing on residents' well-being. Like place attachment, livable communities require two essential harmonious elements: the first is the residents (people), who require basic needs like shelter, sanitation, safety, and water, among others.; the other is the environment (place), defined by its physical and biological features (West & Badham, 2008). Hahlweg (1997) stated that livable communities facilitate a healthy life, increase the chance for easy mobility, and serve as a community for all people.

We posit that when the riverine areas give residents diverse values, opportunities to thrive, and places to work, live, and grow, they feel good about it as an excellent place to live. As a result, a livable community is one in which the physical infrastructure enhances the standard of living of its citizens by meeting their essential (shelter, safety, potable water, electricity, etc.) and advanced (sense of belonging, sense of place, social status, etc.) needs, which result in place dependence.

Similarly, Pacione (1990) regarded livability as a behaviour-related function of the interaction between environmental and personal attributes. However, livability is more than expressing a place and its living conditions; it imitates people's perception of the place and its suitability. We believe that livability for a group of people is not necessarily the same for other groups. Sofeska (2017) claimed livability is the ability of a community to maintain and improve its viability (to attract investments) and vitality (to remain alive) while remaining affordable (Maschaykh, 2013) and supportive of health and safety for residents (Lihu et al. 2020). Costanza et al. (2007) posited that the more needs a community can effectively satisfy, the more livable it is.

According to Myers (1987), livability refers to the collective quality of life within a community, shaped by the common features inhabitants encounter in their surroundings and their subjective assessments of those conditions. The shared characteristics consider tangible features, such as public facilities, and intangible features, like a sense of place, sense of safety, accessibility to amenities, air quality, ease of transportation, social networks, etc. (Howley et al., 2009). Therefore, we argue that livability is partly the degree to which a community and the available services fulfil or enhance residents' needs and expectations or, equally, frustrate them.

At the same time, residents become dependent on communities that meet their needs. The authors believe that attachment is created as residents interact with the social, cultural, economic, and physical environment, which provides resources and opportunities that meet the needs of residents. However, the authors believe that residents do not become attached to a place directly due to interactions but rather through perceptions and meanings attributed to these interactions. Along this line, Ramkissoon et al. (2013) affirmed that residents who are highly attached to an area will work with other neighbours or stakeholders to protect its social, economic, and physical features, thereby enhancing livability. This assertion is by no means conclusive concerning the riverine settlement.

Prior investigations into riverine settlements have focused on climate change, vulnerability, adaptive capacity, and resilience. Regarding

place attachment, previous research has mainly concentrated on attachment to cities or rural areas without considering riverine regions, especially in the global south. To date, no study has been carried out in the riverine settlement of Makoko to thoroughly assess the livability concerns under intensified densification, taking into account the experiences and assessments of the people. Nigeria's location-based literature has not yet adequately evaluated whether having an excellent place to live may explain place attachment. More research is needed to understand how livability issues are experienced and evaluated in the context of riverine settlements in the global south. The study hypothesis is that attachment to place is not affected by livability alone. This hypothesis is put forth but will not be tested through quantitative methods; it serves as the study's primary focus.

Theoretical Underpinning Urban Livability and Place Attachment

The theory of residential normalcy, proposed by Golant (1998), is very relevant to this study because the current development pattern in most riverine areas tends to diminish attachment to such settlements. This model opined that people achieve residential normalcy when they appraise their residential settings as congruent or fitting with their expectations and goals (Golant, 2011). In this sense, two sets of emotions - residential comfort and residential mastery are experienced. Residential comfort occurs when residents experience a pleasurable, hassle-free, and memorable feeling about their settlement; that is, they see the settlement as livable. Similarly, residential mastery will occur when residents experience competence and are in control of the settlement they occupy. These experiences explain why people wish to maintain a relationship with the place to which they are emotionally attached and for which they feel some affection.

However, suppose residents are emotionally attached to riverine settlements but unfavourably appraise their home (private space) and the neighbourhood (social space). In that case, they do not passively accept their unfortunate fates. Instead, they will initiate adaptive behaviours to manage or eliminate their negative experiences and regain their residential normalcy (Golant 2011, 2015). Suppose the settlements do not allow residents to express their adaptive behaviours. In that case, it will limit social interactions, become unliveable, negatively affect their health, and become a source of stress (Buffel, Phillipson, & Scharf (2012). However, if the riverine settlements deliver the expected functions or benefits to the residents, they will likely evaluate the environment positively and become dependent on the place.

We anticipate that residents' positive evaluation of the riverine settlements predicted place attachment, consistent with the view of Lewicka (2011) that residents will develop a sense of belonging to the place when they positively evaluate it. We opined that residents attached to riverine settlements would engage in pro-environmental behaviour to preserve livability. This assertion is in line with Brown, Reed, and Harri's (2002) position that high feelings of attachment also lead to more willingness to work together with one's neighbour to achieve specific goals, such as protecting the local environment or the social and physical features that are characteristic of the neighbourhood.

Further analysis of these theories results in four possible emotional outcomes: in residential comfort/in residential mastery, in residential comfort/out of residential mastery, out of residential comfort/in residential mastery, and out of residential comfort/out of residential

mastery. For instance, when residents of riverine settlements are in their residential comfort, they feel emotionally attached to their dwellings and possessions, enjoy rewarding relationships with their friends or families, feel a sense of belonging with their neighbourhood (social space), or enjoy living in it. However, on the other hand, when out of their residential mastery, they feel stressed because they have difficulty maintaining their home (private space) or continually worry about paying for it. Sometimes, residents could be out of their residential comfort because they had few acquaintances, disliked their social space, and felt their private space was not physically gorgeous. They could also be out of their residential mastery because their vehicle recently became faulty, and they had difficulty reaching their destinations. However, they could also believe all these experiences were unimportant or lacked salience in their overall residential assessment (Golant, 2015). Instead, we believe what would matter most to residents of riverine settlements was their social interactions with acquaintances or colleagues living close by, a significant source of pleasurable feelings and the tasks they could accomplish with their help, bolstering their feelings of competence and control. We opined that since competence and control are potentially contradictory, each resident is expected to make judgments regarding the experience of environmental mastery in their present situation.

On the contrary, these theories explain that when residents are out of either (or both) residential comfort and mastery, they initiate accommodative or assimilative coping strategies to achieve residential normalcy. On the one hand, accommodative (mind) strategies include inner-directed strategies to reconfigure expectations for their physical setting and calm or rationalize the emotional irritations that result from the less-than-ideal aspects of where they live. When those expectations are satisfied by an object or subject, the residents feel safe and comfortable and continue to expect their needs to be fulfilled by the object or subject. In this way, the individual becomes attached to the object or subject. The individual starts having hopes and making plans based on the attachment figure.

On the other hand, assimilative (action) strategies include externally directed efforts and activities to modify, prevent, or correct the offensive or discrepant aspects of the riverine environment, change one's activities, or move. These strategies operate on the premise that residents will be motivated to initiate coping when they feel out of their comfort or mastery.

According to Golant (2003), emotional experience outcomes of residential comfort and mastery are not necessarily fixed or permanent end states but are often in flux. In this sense, these strategies intend to change the residents and the physical setting; they can be linked to many positive outcomes but also have downsides. To our knowledge, empirical research has not yet utilized the residential normality paradigm, particularly in Nigeria. Also, there has never before been a direct application of residential normality to evaluate overall livability.

2. Methodology

Data Collection

The multistage sampling technique was used to collect primary data from residents in Makoko. The first stage involved the purposive selection of residential neighbourhoods. This was identified through the Geographic Information System (GIS). The second stage consists of the identification of neighbourhoods: six (6) neighbourhoods were on land and eighty-six (86) on water, making a total of ninety-two (92)

residential neighbourhoods in Makoko. The third stage involved randomly selecting three (3) neighbourhoods with the most buildings or households on land and water without replacement. The preferred residential neighbourhoods on the water were Zone D, E, and F, with 232, 147, and 825 housing data, respectively.

In contrast, the residential neighbourhoods on the land were Zone 1, 85, and 86, with housing numbers 455, 2389, and 710, respectively. In the fourth stage, residential buildings in the neighbourhoods were estimated and selected. The distribution showed 1382 residential buildings on land and 7255 on water, making the total Makoko housing units 8,637. Permission of the participants was sought during pre-survey visits, during which the date and time of the survey were set. A systematic sampling technique was used to select buildings where respondents were chosen for questionnaire administration. Respondents were selected from one of every ten buildings in the designated area of Makoko. In the fifth stage, respondents above 18 years were considered for the questionnaire administration, of which 864 were surveyed, with 138 and 726 in residential neighbourhoods on land and water, respectively.

This study only focused on residents who reported being between 28 and 65 years old. Those who have lived there for more than ten years were assessed since livability illustrates the interaction between people and their surroundings and is best understood over time (Myers, 1987). Before commencing the survey, prospective participants were questioned about the duration of their residency and age group. Next, participants were asked if they would be willing to participate in the survey. They were wished a good day if they indicated they declined. If the participants indicated in the affirmative, then the principal investigator and some other field assistants simplified what urban livability and place attachment meant to them in the appropriate dialect through trained field assistants proficient in local and English.

To ensure that the information provided by the participants was as honest as possible, the field assistants ensured that the questionnaire was filled out independently and that participants did not discuss the content with others before or while completing the questionnaire. Some participants, primarily elderly/seniors, were assisted by field assistants in filling out the questionnaire due to limited education or other reasons. The survey took less than 15 minutes, and the participants were thanked for their time. The participants' responses were anonymised to protect their identities. It took almost six weeks to complete the survey (February 26, 2024, to April 6, 2024). A pilot survey was carried out before the primary investigation. Only 465 (53.8%) were retrieved and analyzed. The response rates were considered suitable since Dada (2021) concluded that responses ranging between 30% and 60% are appropriate.

3. Results and Discussion

Socio-economic characteristics of residents

Prior studies have shown that residents' socio-economic characteristics can influence the assessment of urban livability or overall urban perception (Cassarino et al., 2020). The mean age of the sampled respondents was 37 years, implying they would be best positioned to describe how livable the settlement was. Though we assume age would influence residents' attachment and expectations about their living environment, Rollero and De Piccoli (2010) found no relationship between age and place attachment. Our research also showed that more than half (82.3%) of the interviewed residents

claimed to have lived in Makoko for 21 to 30 years.

This finding suggests that the residents were familiar with the environment. Thus, the information provided was assumed to be accurate enough to describe their attachment to and expectations of their living environment. We expected variation in the attachment and expectations of residents born and still residing in the riverine settlement with those born elsewhere and moved to the settlement later in life but still lived there. The finding showed that 30.6% of the respondents were male, 67.6% were female, and 1.8% did not indicate gender. From the results, it would appear that those who will be sentimental about the settlement are fully represented in this study, as opposed to the male folk who are likely to be less comfortable expressing their emotions. This supports the assertion of Ghani et al. (2019) that women are expected to be naturally sensitive to their social environment. Rollero and De Piccoli (2010) found that women are more attached to their homes than men. As such, they would be better placed to express residents' real expectations about their living environment. Thus, we believe that gender will mediate the relationship between urban livability and place attachment.

By average income, the riverine settlement seems relatively homogeneous, with residents earning $25 (₦1581 per dollar) per month working in the informal economy. According to UNDP (2004), 65-70% of the residents live below the poverty line, with half of them probably living on less than half a dollar daily and in precarious situations. Based on our findings, we believe most residents have limited choices about living in Makoko, increasing their dependence on the settlement through cognitive dissonance. It was established that more than half (53.7%) of the respondents claimed not to have formal education, and less than half (19.3%) of those who claimed they were literate (46.3%) did not possess more than a primary school certificate. The finding suggests that the residents live in these areas because they have no choice and have convinced themselves that the riverine area is better than others. This inference is based on Williams et al.'s (1992) assertion that less educated people were more attached than well-educated people. In contrast, Taylor, Gottfredson, and Brower (1985) found that well-educated people were more attached than people with less education. Concerning household sizes, the Afon, Dada, and Faniran (2016) classification was used to group the household sizes of the respondents into three: small households with 1-6 persons, medium households with 7–10 persons, and large households with above 11 persons. While most (73.3%) households were small-sized, one-quarter (25.6%) were medium-sized, and 1.1% were medium-sized households. The results showed that household size was within the national average of six people in Nigeria (National Bureau of Statistics, 2009).

The livability of the riverine settlement

The study established that, of all the residents sampled, only 12.7% claimed they were satisfied with the settlement as an excellent place to live. Judging from the residents' monthly income, a lack of finance to relocate or acquire property in better locations made the residents convince themselves that it was better to remain in the settlement despite their dissatisfaction. The authors also believe that the dissatisfaction expressed by residents can likely push them to engage in place-protective behaviours and show willingness to sacrifice for the well-being of the settlement. Although this is somewhat unexpected because of their income level, only residents more attached to the settlement would likely participate in these place-protective

behaviours. However, further analyses asked residents to indicate the kind of settlement they would have preferred to live in.

Almost half of the participants (47.4%) would like to live in a community with easy access to essential services such as potable water, leisure facilities, health services, education facilities, or a continuous electricity supply. The authors believe the presence and accessibility to local amenities are essential to residents' perceived living quality and contribute to more social interaction and neighbourhood ties. We opine that areas with infrastructure that people can use are preferred because they will enhance memorable experiences and help develop place attachment.

We also employed mean values to determine aspects of livability that the people are satisfied with. Overall, the Likert scale results, as presented in Table I, show that transit convenience (mean value of 2.39 out of a possible 5) was rated as the most satisfactory aspect when determining the livability of the riverine area and the least satisfactory, with a mean value of 2.39 was environmental health.

This finding aligns with similar outcomes (Ji & Gao, 2010) that showed that a place depends directly or indirectly on the type and quality of its transportation system. Because it gives inhabitants high mobility and saves them a lot of time on travel, transit convenience adds to their pleasure with the riverine settlement.

Table I: Descriptive statistics for livability of the riverine settlement

Dimensions	Items	RLI	d
Transit convenience	shorter routes to various land uses	3.75	1.36
	Access to comfortable and frequent public transport	2.12	-0.27
	Access to water transportation	3.64	1.25
	Opportunity to choose different modes of transport	1.46	-0.93
	More opportunities for walking and cycling	1.54	-0.85
	Access to road networks that support human-scaled mobility	1.85	-0.54
Security of habitation	Availability of fire-fighting equipment	1.50	-0.12
	Availability of emergency shelter	1.44	-0.18
	Availability of security guards and police protection	1.32	-0.50
	Safety of personal property	2.41	0.79
	Safety from accidents in public spaces	1.68	0.06
	Safety from crime in the neighbourhood	1.54	-0.08
Completeness of supporting facilities	Access to quality educational facilities	1.44	-0.22
	Access to quality medical facilities	1.49	-0.17
	Access to quality leisure, recreation, and entertainment facilities	1.61	-0.05
	Access to places of worship	2.18	0.52
	Most services are located within walking distance.	1.54	-0.12
	Access to commercial service facilities	1.94	0.28
	Access to quality banks and financial institution	1.41	-0.25
Environmental Health	Air quality	1.55	-0.08
	Water quality	1.61	-0.02
	Solid waste pollution	1.91	0.28
	Noise pollution	1.53	-0.10
	Drainage	1.56	-0.07

Note: Mean (RLI) values that appear in bold are the livability attribute that residents are satisfied with; *d* = mean deviation. 5 Likert-type scale, where 5 =Very Satisfied, 4 = Satisfied, 3 = unsure, 2= dissatisfied, and 1=very dissatisfied.

Further analysis of transit convenience reveals that the dimension with the highest satisfaction is shorter routes to various land uses (3.75) and access to water transportation (3.64). The dimensions with relatively low satisfaction pertain to access to comfortable and frequent public transport (2.12), access to road networks that support human-scaled mobility (1.85), more opportunities for walking and cycling (1.54) and the opportunity to choose different modes of transport (1.46), whose scores are all below the overall satisfaction level.

Our results suggest the locals were content with the more accessible access to other areas that their location offered, which is consistent with findings by Arifwidodo and Perera (2011), who show that livability - a term closely linked to well-being - is positively impacted by shorter commutes to the city centre. The community's location along the river and the traffic patterns in the area will significantly impact the residents' daily travel time. The present study's findings do not imply that more accessible travel favours how residents feel about the riverine community as an excellent place to live. However, we believe more accessible access to water transportation and other areas make residents more conscious of their dependency on the riverine environment or strengthen their attachment to it regardless of how they feel about the place.

The safety indicator is the second most important factor based on Maslow's hierarchy of needs. As such, the security of habitation, that is, safety, is also crucial because it guarantees the quality of the living place. Enough protection from potential threats, convenient access to fire and emergency services, and sufficient security are all necessary for safety. The results showed that *safety of personal property* (2.41) and *safety from accidents in public spaces* (1.68) were dimensions of security of habitation that residents were satisfied with. Regardless of whether locals thought a place was habitable or uninhabitable, people often settled where they felt safe about their lives or property; therefore, the results weren't shocking.

People frequently develop ties to home, neighbourhoods or public spaces, according to Zen and Mohamad (2014), primarily for safety and security reasons. We can infer from our findings that people are more likely to be attached to a riverine area if it provides specific affordances that safeguard lives and property and encourage them to use the place to meet their needs, desires and concerns. Thus, they begin assessing the riverine area based on their needs and concerns. Over time, the intensity of dependency and attachment will depend on the riverine environment's functionality rather than just safety.

In assessing another aspect of livability - completeness of supporting facilities, access to places of worship (2.18), and access to commercial service facilities (1.94) were satisfactory. Across the riverine area, access to quality educational facilities, access to quality medical facilities, access to quality leisure, recreation, and entertainment facilities, and access to quality banks and financial institutions and most services within walking distance were less satisfactory. This finding implies that, even when supporting facilities are not easily accessible, accessibility can be improved by

careful planning. This should correspond with the area's population to avoid these facilities becoming too crowded. Even though various factors influence the livability of Makoko's riverine environment, the efficient use of planning instruments, including land-use planning, planning rules, planning standards, and guidelines, is essential to guiding the spatial distribution of the supporting facilities. Effective planning techniques will, therefore, ensure that the auxiliary facilities necessary to improve livability are available.

Concerning the environmental health aspect of livability, residents were a little more satisfied with the solid waste pollution. This finding may result from an environmentally beneficial garbage disposal method or an effective rubbish collection service. Across the riverine area, residents were dissatisfied with the air quality, water quality, noise pollution and drainage. In this vein, research conducted in Germany (Rehdanz & Maddison, 2008) confirmed that increased local air pollution and noise levels considerably reduce people's subjective well-being or livability. While it is understood that one of the leading life goals for individuals is to achieve high subjective well-being (OECD, 2013), public policy in the global south needs to prioritize this goal.

Residents' Attachment to the Riverine Settlement, although this RAI is unique to this study, the information was taken from Dada's (2021) research, which concentrated on the variables influencing residents' choices to dwell near the landfill. The results indicated that the top seven significant variables influencing residents' decisions to remain in the riverine area despite its living conditions were low housing and living costs compared to others (1.13); I am unable to leave the riverine settlement for financial reasons (0.89); I feel firmly attached to the riverine settlement (0.75); My family has lived in this settlement for several generations (0.67); I own the property on which I live (0.64); the settlement makes it possible to conduct several activities (0.63); and if I were to move away, I would lose contact with several friends (0.59). The average score on the scale, which comprised 31 statements and sought to identify reasons influencing residents' decisions to remain in the riverine area despite its substandard living conditions, was 2.59.

Table II: Factors influencing residents' decisions to reside in riverine settlement despite the living conditions there

Items	*RAI*	*d*
Low costs of housing and living in the area compared to others	3.72	1.13
I am unable to leave the riverine settlement due to financial reasons.	3.48	0.89
I feel firmly attached to the riverine settlement.	3.34	0.75
My family has lived in this settlement for several generations.	3.26	0.67
I own the property on which I live.	3.23	0.64
The settlement makes it possible to conduct several activities.	3.22	0.63
If I were to move away, I would lose contact with several friends.	3.18	0.59
I am involved in improving settlement.	3.14	0.55
There are people I can turn to for support in the settlement.	3.11	0.52
For me, living in this settlement has a special meaning.	3.08	0.49
The settlement poses no risk to me.	2.87	0.28
I live in a safe settlement.	2.73	0.14
I am tied to the settlement because of my job.	2.69	0.10
I have values similar to those of other people in settlements.	2.68	0.09
Living in a settlement gives me a sense of pride.	2.54	-0.05
I have lived here most of my life.	2.47	-0.12
I would find it difficult emotionally to move away from the settlement.	2.46	-0.13
I have some control over the decisions made regarding settlement.	2.41	-0.18
Proximity to economic opportunities	2.39	-0.20
Proximity to good services (e.g., health services, schools, shopping facilities, public transport, etc.)	2.31	-0.28
I can easily access other parts of the city from here.	2.26	-0.33
There is an option available in the area that enables me to do the thing I want to do	2.19	-0.40
Members of this settlement care about each other.	2.18	-0.41
The settlement allows me to stay in touch with my friends/relatives.	2.09	-0.50
Needs are fulfilled by the available riverine functions.	2.05	-0.54
The settlement has provided me with essential memories.	2.03	-0.56
I had my house/land here before the settlement developed.	2.01	-0.58
Low incidence of crime	2.01	-0.58
This is a close-knit settlement.	1.99	-0.60
Security services or police presence are sufficient in the area.	1.87	-0.72
Good friends of mine live in the settlement.	1.26	-1.33
Mean score	2.59	

Thirty-one (31) variables (see Table II) that influenced inhabitants' decisions to live in riverine villages despite the poor living conditions there were analysed using PCA. Kaiser-Meyer-Olkin measured sample adequacy at 0.612, somewhat higher than the recommended value of 0.60. Realistic factorability was also indicated by the correlation between these variables, which was at least 0.400. Table III indicates a significant result for Bartlett's test of sphericity (χ^2 = 2509.408, df = 603, $p \leq 0.05$). The commonalities, which were all above 0.40, further demonstrated that every item shared some common variance with other variables.

The Eigenvalues ≥ 1.0; factor loadings ≥.40; item loadings on more than one factor had to differ by ≥.10 in loading to be retained. Our decision about how many factors to keep or discard was influenced by the following: (1) the scree plot's discontinuity analysis and (2) factors containing at least three variables with a factor loading larger than 0.4.

Table III. KMO and Bartlett's test of factors influencing residents' decision to live in riverine areas despite the conditions

Kaiser–Meyer–Olkin measure of sampling adequacy		0.612
Bartlett's Test of Sphericity	Approx. χ^2	2509.408
	Df	603
	Sig	0.000

The initial Eigen values indicate that factors one, two, three and four explained 24.468%, 17.453%, 15,733 and 11.247% of the total variance, labelled and presented in Table IV. The four factors explained 68.901% of the total variance. Findings, as presented in Table IV, revealed that factor one has three variables loading on it: *I am tied to the settlement because of my job, the settlement makes it possible to conduct several activities,* and *there is an option available in the area that enables me to do the thing I want to do.* Because of how the variables are loaded, this component is called *place dependence,* implying that people have grown so reliant on the riverine town to supply their needs. Because Makoko satisfies its residents' needs, they can accomplish their goals and view it as better than other locations. Despite the living conditions, they decide to remain there.

Similarly, factor two has three loading variables. Compared to other areas, this one has lower housing expenses and a higher standard of living. I cannot leave the riverine settlement for financial reasons, and my employment there binds me. These variables are referred to as *finances,* implying that people persuade themselves that it is preferable to stay in the riverine area despite the living circumstances because they lack financial resources. Factor three is loading four variables: The riverine town holds a unique place in my heart; it is a close-knit community that has given me priceless memories. I also feel strongly tied to it. The term "*sense of place*" refers to these variables' loading. This suggests that even if locals are aware of and choose to accept the area's living conditions due to the benefits they see in it, they nevertheless feel safe and secure there. Even if a feeling of location is frequently linked to favourable results, it can sometimes have unfavourable effects. Fried (2000), for example, contended that a feeling of place can contribute to intercultural and interethnic conflict, particularly in the context of migration. Simultaneously, a strong sense of place makes people more likely to desire to support the preservation, restoration, and retention of place features, strengthening locals' feelings of identity.

Table IV. Factors influencing residents' decision to live in riverine settlement despite the living conditions there

Factor	Variables[a]	Factor loading	% variance explained
Place Dependence	I am tied to the settlement because of my job	0.911	24.468
	The settlement makes it possible to conduct several activities	0.882	
	There is an option available in the area that enables me to do the thing I want to do	0.768	
Finances	Low costs of housing and living in the area compared to others	0.854	17.453
	I am unable to leave the riverine settlement due to financial reasons.	0.736	
	I am tied to the settlement because of my job.	0.649	
Sense of Place	I feel firmly attached to the riverine settlement.	0.863	15.733
	For me, living in this settlement has a special meaning.	0.819	
	The settlement has provided me with essential memories	0.735	
	This is a close-knit settlement.	0.696	
Social Connection	I have values similar to those of other people in settlements	0.831	11.247
	There are people I can turn to for support in the settlement.	0.822	
	I am involved in improving the settlement	0.785	
Total variance (%)			68.901

Three variables are loaded into factor four. These factors were dubbed "*Social Connection*" variables, implying that locals feel a sense of attachment and social links to the locality. The following are these variables: I am involved in enhancing the settlement, I have values comparable to those of other residents, and I have individuals in the settlement that I can turn to for help. It is assumed that by bolstering good place-based experiences and shared expectations, the possibility of remaining in contact with those who share similar values improved residents' emotions of security. The results suggest that acceptance of the location's living conditions gets easier for inhabitants with a sense of place (i.e., place reliance and social connection). This claim is supported by the observation that people dependent on a place will be more eager to participate in environmental initiatives to enhance the subpar living conditions there.

On the other hand, residents with strong social ties might be less amenable to living circumstances that they perceive as endangering their social lives and, thus, their social ties. Therefore, when it comes to the living conditions of the riverine town, governmental agencies can make decisions based on the characteristics of resident's attachment to their area, whether it be a sense of place, place dependence, or social connection. The study had excellent reliability for internal consistency and could be considered highly generalisable.

4. Conclusion and Policy Implications

The results of this study both corroborate earlier findings and suggest more research on the connection between livability and place attachment in several geographic contexts. The findings can then be used to educate government activities further to improve living conditions or developers interested in creating a more livable area based on settlement categorisation. It will also serve as a manual for implementing community-based, resident-friendly rehabilitation initiatives to raise the settlement's general performance, livability, and standard of living.

The results of this study have several significant policy ramifications. First, Nigeria's governments should address livability deficiencies in several areas, including transportation convenience, environmental health, and urban security, to enhance the quality of life in riverine towns. Specific concerns must be given extra attention, including parking lot availability, traffic congestion, environmental pollution, waste management, transportation, safety and security, and the absence of services. Second, our study found that the completeness of supporting amenities impacts overall satisfaction with livability, followed by transportation convenience and environmental health, even if urban security plays a crucial role in livability. To build livable riverine settlements in Nigeria, it is therefore imperative that significant resources be allocated to improving or providing public infrastructure. Specifically, it is necessary to continue to increase investment in infrastructure and public facilities, not only to increase the quantity but also to strengthen the quality of construction. We recommend shifting high-quality public resources towards riverine and coastal areas to promote spatial justice and social equity. Improving some auxiliary facilities and functionality can effectively promote residents' quality of life in riverine and coastal areas.

In conclusion, combining the environment's objective aspects and the inhabitants' subjective perceptions is necessary to achieve people-oriented livability. Consequently, locals with varying socio-economic backgrounds are involved in the development and building of the city. This could result in better comprehension and consideration of the various demands of the population throughout the construction of riverine settlements. Individual residents' requirements and the choices of various groups should be respected. They can gain from involvement by selecting ideal communities based on their needs and tastes.

Some limitations of this study should be mentioned. First, the development of livable riverine settlements involves causal relationships among the various parameters. A lack of adequate data reservations of stakeholders in explaining the actual situation of people, the environment, governance, and living conditions are the significant limitations of this study. It is essential to add all dimensions mentioned in this study, which must be included in future modelling to assess riverine settlement conditions promptly.

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