

# **ANALYSIS OF FACTORS CONSTITUTING THE CHALLENGES TO RESIDENTS' LIFESTYLE IN COASTAL AREAS OF LAGOS STATE, NIGERIA. THE EXPERIENCE FROM IKORODU AND IBEJU-LEKKI**

**SAMUEL OSAYAMEN TONGO**

Olabisi Onabanjo University, Ago-Iwoye, Ogun State, Nigeria  
tongo.samuel@oouagoiwoye.edu.ng

**ADELEKE ADEWALE AKINPELU**

Lagos State University of Science and Technology, Lagos, Nigeria

**VICTOR ONIFADE**

University Lagos, Akoka, Lagos, Nigeria

**PETER OLULADE FOSUDO**

Lagos State University of Science and Technology, Lagos

**OPEYEMI OMOLARA PHILIPS**

University Lagos, Akoka, Lagos, Nigeria

**YAKUBU OLARENWAJU HASSAN**

University Lagos, Akoka, Lagos, Nigeria

## **Abstract**

The environmental peculiarities continue to constraints various human socioeconomic functions and aspirations within various spatial units, including the coastal area. Given this, this study examines the factors constituting the challenges to residents' lifestyle in selected coastal areas of Ikorodu and Ibeju-Lekki, Lagos State. A cross-sectional survey research design was adopted for this study. Multistage sampling techniques was used to sample and administer 310 copies of a questionnaire on the household representatives with a proportion of 183 and 127 in Ikorodu and Ibeju-Lekki respectively. The data was analyzed using descriptive (Composite Mean Analysis), and inferential (exploratory factor analysis) statistical methods. Major findings revealed high traffic congestion (3.92), insecurity and high crime rate (3.85), open defecation (3.81) as top-three challenges affecting residential lifestyle within the study area. Based on the 20 variables evaluated using EFA, four components were extracted and named environmental (5), social (6), economic (4) and physical (5) issues. In other words, indiscriminate dumping of refuse and other related solid waste (.893), insecurity and high crime rate (.955), high traffic congestion (.950), are inadequate and high cost of public housing (.783) are top-loaded factors under the four extracted components environmental, social, economic and physical issues respectively. The study concludes and recommend urban renewal, efficient resource allocation, urban plan

review, and strengthening the existing environmental policies to improve the lifestyle of residents of the coastal areas within Lagos State, Nigeria.

**Keywords:** Coastal areas, environmental challenges, Lagos State, residents' lifestyle, Nigeria

**JEL classification:** C12, H83, I31, L85

## 1. INTRODUCTION

From time immemorial, coastal zones of the world have been major centers of human populations and served as many of the primary routes of transportation and communication among these population centers (World Coast Conference, WCC, 1993). Coastal development is a human-induced change of the landscape within sight of the coastline by building structures that are on or near the coast in general for protection, commerce, communication, or recreation, and these structures support economic and social activities either positive or negative (Patricia, Sevilla, & Ruiz, 2019). Worldwide, about 60% of the inhabitants are living in coastal environments (Barua, Rahman, Mitra, & Zaman, 2020). Although the coastal environment can recall some degree of natural charm, increased human modification decreases the "naturalness". Coastal erosion and displacement of the coastal communities are the interlinkages.

The coastal zone of Nigerian sprawls a total of nine states, out of the thirty-six states of the federation, namely: Akwa-Ibom, Bayelsa, Cross River, Delta, Edo, Lagos, Ogun, Ondo and Rivers (Mmom & Chukwu-Okeah, 2011). The coastal states are estimated to account for 25% of the national population. The coastal areas stretch inland for a distance of about 15 km in Lagos in the West to about 150km in the Niger Delta and about 25 km East of the Niger Delta. The coastline stretches for about 853 km comprising inshore waters, coastal lagoons, estuaries and mangroves, especially in the Niger Delta. This stretches for about 853 km comprising inshore waters, coastal lagoons, estuaries and mangroves, especially in the Niger Delta area of the country, Nigeria. The increase in urbanization in the coastal zones has led to conflict and imbalance between economic development, the livelihood of local communities, and the protection of the natural environment (Neumann, Vafeidis, Zimmermann, & Nicholls, 2015; Papatheochari, 2020). Such conflicts may occur in a more extreme form where the natural livelihood of the indigenous population and their access to the coastal resources is taken over by economic interests. These include tourism and leisure development that will not necessarily benefit the low-income people and the local community.

However, many coastal problems that are now being encountered worldwide have resulted from the unsustainable use and unrestricted development of coastal areas and resources. These problems include the accumulation of contaminants in coastal areas, erosion, and the rapidly increasing decline of habitats and natural resources (Jiboye, Ikorukpo, & Olatubara, 2019). Population growth and associated economic developments place additional demands on coastal areas and resources, posing yet another threat to the sustainability of these areas. The impacts of

unsustainable coastal development will ultimately result in the degradation of natural systems that protect the sea, habitat for many species and food for many people, and could pose significant risks to public health. The problems related to unsustainable coastal development and coastal zones can also be significantly affected by the impacts of human-induced climate change (Greenfield, Chintala, Al-shababi, Anato, & Mcdonnell, 2019; Patricia, Sevilla, & Ruiz, 2019). One of the many anticipated effects of climate change is an accelerated rise in global mean sea level.

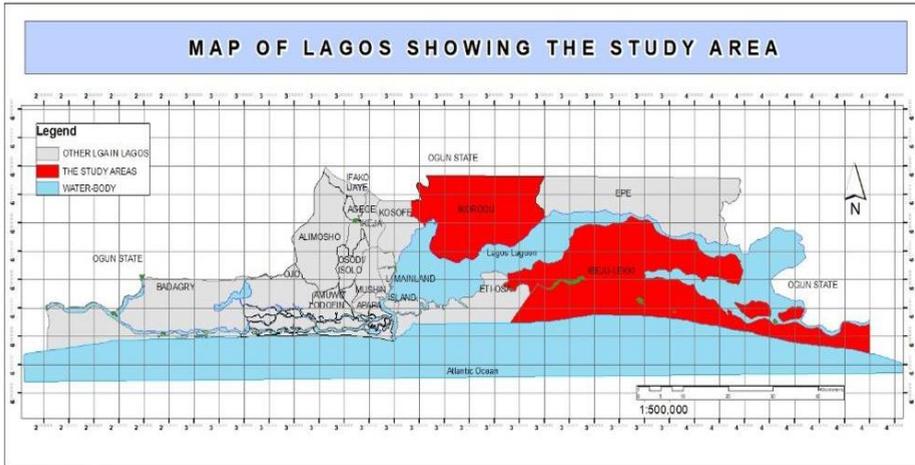
It is estimated by the year (2100), that there will be severe impacts on coastal areas and their resources (WCC, 1993; Creel, 2023). Wetlands are likely to be threatened, coastal erosion will increase, and coastal resources, populations and economies will be adversely affected (WCC, 1993, United Nations 2017). Already in the shorter term, other aspects of climate change may have serious effects; these include changes in the frequency, intensity and patterns of extreme weather events such as tropical cyclones, intense precipitation, and associated storm surges and flooding. Some coastal areas, particularly those that are frequently hit by tropical cyclones and monsoons, are already now facing significant threats posed by climate variability, independent of climate change. There is little published work on factors constituting challenges to residential lifestyle in coastal areas in Lagos State and there is no well-established solution taking on the challenge of creating and providing a solution to the challenges that will help to deliver a sustainable community that can also be resistant to impending natural disasters. Considering this, the study factors constitute challenges to residents' lifestyle in selected coastal areas of Lagos State.

## **2. THE STUDY AREA**

Ibeju-Lekki and Ikorodu Government Areas are the focus of this study because both regions have different dynamics of urbanism in terms of spatial growth, rate of housing development, demographic composition and socio-economic development. While Ibeju-Lekki serves the housing needs of migrants from Lagos Island and its environment, Ikorodu absorbs people from Lagos Mainland and the environment (Lagos State Ministry of Housing, 2016). Also, Ibeju-Lekki represents the least urbanized peri-urban settlements in Lagos in terms of population growth and housing development while Ikorodu represents the highly urbanized peri-urban in Lagos in terms of residential development and population growth. The Ibeju-Lekki local government area is bounded in the east by Epe local government while its southern end joins the Atlantic Ocean (see Figure 1). It is about 75 kilometers long and 20 kilometers at its widest point. According to the 2006 national census, the total population of Ibeju-Lekki is 117,793 consisting of 60,729 males and 57,064 females. Ikorodu is a rural community with eleven rural markets located in various villages and natural resource-based economic activities like fishing, agriculture, timber /saw-milling, mat/ raffia weaving, oil-palm processing and emerging eco-tourism.

Ikorodu local government area lies on the narrow coastal lowland of the south-eastern part of Lagos state and is situated on about 129.5 square kilometers of

landmass along the foreshores featuring sandy beaches, swamps, mangroves and creeks. It is bounded in the north by the Lagos lagoon, in the south by the Atlantic Ocean while at its western and eastern boundaries are Ojo and Ibeju-Lekki local government areas, respectively. Ikorodu local government area is bounded in the east by Epe local government while its southern end joins the Atlantic Ocean. It is about 75 kilometers long and 20 kilometers at its widest point. Ikorodu local government area (including Victoria Island and the Lekki peninsula) is rapidly urbanizing with diverse economic activities like banking, retail and wholesale trading, commercial transportation and monumental real estate development for both residential and



Source: Authors 2020

commercial purposes.

**Figure 1: The Study Area**  
 Source: Ministry of Physical Planning (2021)

### 3. MATERIALS AND METHODS

In this study, survey research design was adopted and both primary and secondary data were used to achieve the research objectives. The primary data which was attained through a field survey involved the use of questionnaire administered on residents of the selected coastal areas, while secondary data were derived from published texts. Because the exact population may not be ascertained due to the unplanned nature of most of the wards in the study area and lack of population census data that gives a breakdown of the number of buildings or building population within the different LCDAs in the study area, this study adopted a convenience sampling technique to sampled a total of 400 buildings with a proportional percentage of 200 each in Ikorodu and Ibeju-Lekki areas. In other words, multistage sampling technique that involve the use of stratified-random, convenience and systematic sampling techniques. At the first stage, stratified random sampling was used to select Ikorodu and Ibeju-Lekki and as well delineates these study areas to separate the areas into political wards. At the second stage, convenience sampling was used to administer 200 copies of the questionnaire residents, while at third stage, the

systematic sampling technique was used to select buildings at interval of 5 after the first building had been randomly selected.

In other words, the head of the house or a representative in the building was captured as the sampled unit. A total of 310 (183 in Ikorodu and 127 in Ibeju-Lekki) which accounted for 78% of the total administered copies of questionnaire were completed, extracted and used for analysis. Furthermore, the descriptive (composite mean score) and inferential (exploratory factor analysis) was used to analysis the study objective with the use of SPSS.20.0.

#### 4. FINDINGS AND DISCUSSIONS

This section present results of findings on factors constituting challenges to residents’ lifestyle in the selected coastal areas. Findings on the descriptive analysis which revealed a mean index value of 3.48 have fifteen (15) of the challenges in the PCRLI, which accounted for more than two-third of the challenges (75%) rated above the aggregated PCRLI and high ranked challenges affecting residential lifestyles in the study area. The top-five ranked challenges are: high traffic congestion (3.92), insecurity and high crime rate (3.85), open defecation (3.81), ocean waves and massive tides (3.78) and poor access to public health facility (3.75) and ranked 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> respectively. The least rated are unguided water generation (2.75), tradition, norms and values (2.82), poor urban governance (2.96) and inadequate quality schools for children (2.96) and ranked 20<sup>th</sup>, 19<sup>th</sup> and 17<sup>th</sup> (see Table 1). By implication, majority of the residents were affected by these major challenges found affecting residents’ lifestyle in the coastal areas of Ikorodu and Ibeju-Lekki of Lagos.

**Table 1:** Perceived Challenges to Residential Lifestyle Index (PCRLI) in Coastal Areas

S/N	Challenges	SD	D	A	SA	TWV	RMI	MIV	Rank
1	Indiscriminate dumping of refuse and other related solid waste	0	30	171	952	1153	3.72	3.48	7
2	Open defecation	0	26	99	1056	1181	3.81		3
3	Poor maintenance of waterbodies e.g. hyacinth	15	62	138	872	1087	3.51		12
4	Incessant ocean or sea level rise	10	62	84	964	1120	3.61		9
5	Ocean waves and massive tides	0	10	171	992	1173	3.78		4
6	High traffic congestion	0	6	54	1156	1216	3.92		1
7	Unguided waste generation	90	24	279	460	853	2.75		20
8	Scarcity of portable water supply	1	28	156	972	1157	3.73		6

9	Inadequate quality schools for children	13	200	246	460	919	2.96	17
10	Poor urban governance	31	40	567	280	918	2.96	17
11	Tradition, norms and values	2	202	471	200	875	2.82	19
12	Insecurity and high crime rate	0	6	117	1072	1195	3.85	2
13	Flooding	10	104	72	896	1082	3.49	14
14	Poor road condition	0	8	267	868	1143	3.69	8
15	Poor access to public health facility	0	38	120	1004	1162	3.75	5
16	Inadequate and high cost of public housing	0	44	234	840	1118	3.61	9
17	Poor urban infrastructure	37	100	186	644	967	3.12	16
18	Low quality of bare soil physical development	7	80	147	856	1090	3.52	11
19	Dampness in building	5	104	96	884	1089	3.51	12
20	Predominant building collapse	10	78	153	840	1081	3.49	14

Note: SD- Strongly Disagree, D- Disagree, A-Agree, SA- Strongly Agree, TWV- Total Weighted Value, RMI – Relative Mean Index, MIV- Mean Index Value

Source: Authors’ Computation (2022)

Further investigation was conducted through EFA to determine the factors constituting challenging of residential lifestyle in the study area and the results of the analysis were presented in Table 2. The results of this analysis which was used to confirm the descriptive analysis found that majority of respondents were prone to all the evaluated challenges in the PCRLI. For this analysis, a total of 20 items were subjected to EFA using SPSS 20.0. The result of the Cronbach Alpha which revealed .824, found above the recommended value of .70, the Kaiser-Meyer-Olkin which revealed .882 found exceeding the recommendation value of .60 and the Bartlett’s test of sphericity which revealed 0.000 reached the level of statistical significance and confirmed the suitability of the data in the PCRLI (see Table 2).

Based on the factor loading values in the rotated component matrix using the Varimax rotation, four components extracted were named environmental issue as Component 1, social issue as Component 2, economic issues as Component 3 and physical issue as Component 4 based on .6 iterations. It is worth knowing that 5 factors loaded on Component 1 (environmental issues), 6 factors loaded on Component 2 (social issues), 4 factors loaded on Component 3 (economic issues), while 5 factors loaded on Component 4 (physical issue). The factors that loaded heavily on environmental issue are indiscriminate dumping of refuse and other

related solid waste (.893), open defecation (.856), poor maintenance of waterbodies e.g. hyacinth (.799), incessant ocean or sea level rise (.797) and ocean waves and massive tides (.745). The factors that loaded on social issues are insecurity and high crime rate (.955), poor waste management (.893), portable water scarcity (.799), inadequate quality schools for children (.745), poor urban governance (.722), and tradition, norms and values (.645). The factors that loaded on economic issues are high traffic congestion (.950), flooding (.746), poor road condition (.698), and poor access to public health facility (.691). While the following factors loaded heavily of physical issues include inadequate and high cost of public housing (.783), poor urban infrastructure (.748), low quality of bare soil physical development (.731), dampness in building (.693), and predominant building collapse (.646). Beside this, the Screen Plot in Figure 2 confirmed that any values outside 0 or with negative do not constitute the challenge across the study area. The result of this finding is similar to that of Patricia, Sevilla, and Ruiz (2019) and in line with that of the World Coast Conference Report, (1993) which found that many coastal problems result from unsustainable use and unrestricted development of coastal areas and resources, which accumulation of contaminants in coastal areas, erosion, and. the rapidly increasing decline of habitats and natural resources.

In other words, because the coastal areas are planet’s most productive and valued ecosystems, over 60% of the world’s major cities are located in coastal zones (Creel, 2023) and about 40% of all the people on the planet live within 100km of a coastal zone (United Nations, 2017). This leads to a tightly intertwined relationships between humans and coastal resources amplifying the most urgent questions of limits and equilibrium, sustainability, and development in our world today.

**Table 2:** Factors Constituting Challenge to Residents’ Lifestyle in the Study Area

<b>Rotated Component Matrix<sup>a</sup></b>				
<b>Factors constitute a challenge to residents’ lifestyle in the study area of Ibeju-Lekki and Ikorodu</b>	<b>Component</b>			
	1	2	3	4
	Environmental Issue	Social Issue	Economic Issue	Physical Issue
Indiscriminate dumping of refuse and other related solid waste	.893			
Open defecation	.856			
Poor maintenance of waterbodies e.g. hyacinth	.799			
Incessant ocean or sea level rise	.797			
Ocean waves and massive tides	.745			
Insecurity and high crime rate		.955		
Poor waste management		.893		
Portable water scarcity		.799		
Inadequate quality schools for children		.745		
Poor urban governance		.722		
Tradition, norms and values		.645		
High traffic congestion			.950	
Flooding			.746	

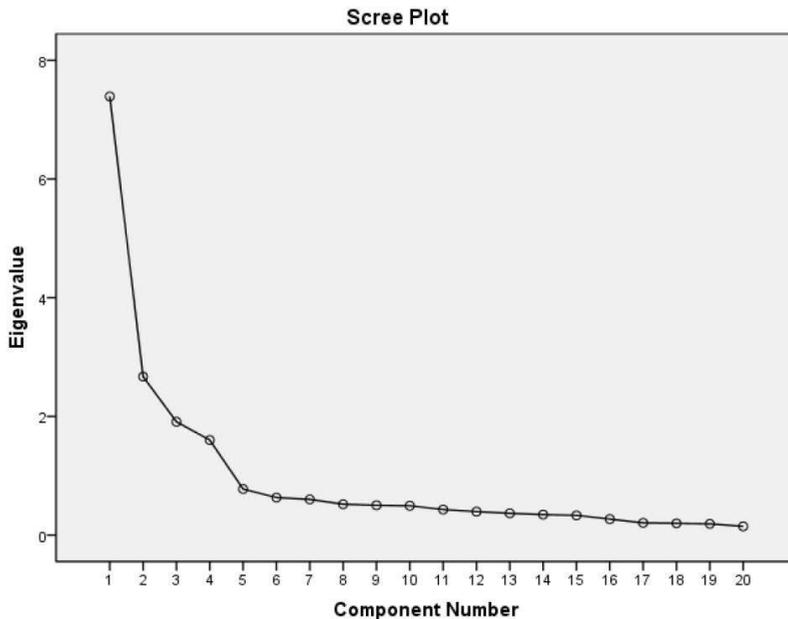
Poor road condition			.698	
Poor access to public health facility			.691	
Inadequate and high cost of public housing				.783
Poor urban infrastructure				.748
Low quality of bare soil physical development				.731
Dampness in building				.693
Predominant building collapse				.646

*Cronbach Alpha = .824 > .70, the Kaiser-Meyer-Olkin = .882 > .60 and the Bartlett's test of sphericity = 0.000 < 0.05 level of significance. Approx. Chi-Square = 4192.599*  
*Extraction Method: Principal Component Analysis.*

*Rotation Method: Equamax with Kaiser Normalization.*

*a Rotation converged in 6 iterations.*

*Source: Authors' Computation (2022)*



**Figure 2: Scree Plot of Eigenvalue**  
*Source: Authors' Computation (2022)*

Figure 3 and 4 clearly shows the challenge faced by the residents in the study areas which are part of the top ranked factors that strongly constitute the challenges affecting residential lifestyle within coastal areas of Lagos State.



**Figure 3:** Typical Surrounding/Exterior of Building on a typical settlement in Ibeju-Lekki and Ikorodu

Source: Authors Fieldwork (2022)



**Figure 4:** Unkept Environment/Poor Road/Accessibility in the selected study areas

Source: Authors Fieldwork (2022)

## 5. CONCLUSION

Since the emerged of housing in coastal areas of Lagos is inevitable and planned, these poses challenges to the resident in the study area. This study have evaluated the challenges and factors constituting the challenges to residents' lifestyle in the coastal areas of Ibeju-lekki and Ikorodu of Lagos State and concluded that these factors which spread across environmental, social, economic and physical issues requires to be address independent of one another. Hence, there is a need for a good knowledge of the socio-economics attribute of the coastal areas to understand their effect of the environmental peculiarity for accurate projections of future urban growth and improved residents' quality of life and wellbeing. It requires that housing development policy for the coastal areas should be included into the national development policy, and continuous efforts including socioeconomics survey, planning, resource allocation, man power training and development, regular review and strengthening of policy implemental by concern government agencies are all

necessary to address the challenges affecting the residents' lifestyle in the coastal areas of Lagos state, Nigeria.

## REFERENCES

- Adedire, F. M., Adegbile, M. (2018). Assessment of housing quality in Ibeju-Lekki periurban settlement, Lagos State, Nigeria. *Acta Structilia*, 25(1), 126-151. doi:doi.org/10.18820/24150487/as25i1.5
- Adedire, F. M., Adegbile, M. B. (2017). Factors Influencing Housing Characteristics in Lagos Peripheral Settlements: Case of Ikorodu. *Architecture Research*, 7(5), 191-200. doi:DOI: 10.5923/j.arch.20170705.01
- Barua, P., Rahman, S. H., Mitra, A., Zaman, S. (2020). Review on Coastal Erosion, Displacement and Resettlement Strategies of South Asian Countries. *The Global Environmental Engineers*, 7, 52-72.
- Creel L. (2023). *Ripple Effects: Population and Coastal Regions*. Washington, D.C.: Population Reference Bureau. <https://www.prb.org/resources/ripple-effects-population-and-coastal-regions/>
- Greenfield, D., Chintala, R., Al-shababi, N., Anato, M., Mcdonell, K. (2019). *Impending Coastline Housing Crisis A Problem and a Solution*. <https://storymaps.arcgis.com/stories/2cc6cd8919b54760ae36aab0c98601a3>.
- Jiboye, J. O., Ikporukpo, C. O., Olatubara, C. O. (2019). Causes of Environmental Degradation in the Coastal Areas of South West, Nigeria. *European Journal of Sustainable Development Research*, 3(2 em0079.), 1-15. doi: <https://doi.org/10.20897/ejosdr/3969>
- Mmom, P., Chukwu-Okeah, G. (2011). Factors and Processes of Coastal Zone Development in Nigeria: A Review. *Research Journal of Environmental and Earth Sciences*, 2(6), 625-632.
- Neumann, B., Vafeidis, A., Zimmermann, J., Nicholls, R. (2015). Future Coastal Population Growth and Exposure to Sea-Level Rise and Coastal Flooding - A Global Assessment. *PLoS ONE*, 10(3 e0118571), 1-34. doi:10.1371/journal.pone.0118571
- Papatheochari, D. (2020). *Coastal Cities*. Retrieved from [http://www.coastalwiki.org/wiki/Coastal\\_Cities](http://www.coastalwiki.org/wiki/Coastal_Cities) [accessed on 27-10-2021]: [http://www.coastalwiki.org/wiki/Coastal\\_Cities](http://www.coastalwiki.org/wiki/Coastal_Cities)
- Patricia, N., Sevilla, M., Ruiz, A. C. (2019). *Coastal Development: Construction of a Public Policy for the Shores and Seas of Mexico*. Mexico: <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/coastal-development>.
- United Nations (UN, 2017). *The Ocean Conference. Factsheets: People and Oceans*. New York: UN. <https://www.un.org/sustainabledevelopment/wp-content/uploads/2017/05/Ocean-fact-sheet-package.pdf>

- WCC (1993). *Preparing to meet the coastal challenges of the 21st century*. Noordwijk, The Netherlands: World Coast Conference report.
- World Bank Group. (2019). *The West Africa Coastal Areas Management Program-Knowledge sheet 9*. <https://documents1.worldbank.org/curated/en/742321498134663818/pdf/116600-BRI-10561WACA-KS9-Coastal-Eco-ENGLISH-PUBLIC-v2.pdf>
- World Bank. (2020). *The cost of coastal zone degradation in Nigeria: Cross River, Delta and Lagos states*. <https://reliefweb.int/report/nigeria/cost-coastal-zone-degradation-nigeria-cross-river-delta-and-lagos-states>.