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Oluwaseyi Omowunmi Popogbe

**DECOMPOSITION OF
LIVING STANDARD
PRACTICES IN SELECTED
SLUMS IN LAGOS STATE,
NIGERIA**



IFRA-Nigeria

WORKING PAPERS SERIES

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This paper is part of a **publication series of 4 IFRA-Nigeria working papers (86, 87, 88, 89)** resulting from the one-day roundtable “Urban Lives & Environmental Changes” organized *by and for* early-career researchers, held at the University of Lagos on May 10th, 2022. This event was co-organized by IFRA-Nigeria and the Center for Housing and Sustainable Development at the University of Lagos.

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Decomposition of Living Standard Practices in Selected Slums in Lagos State, Nigeria

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Abstract

Slum inhabitants have a significant environmental effect from their activities, and their living circumstances leave them open to several types of deprivation. As a result, this study modifies the global Multidimensional Poverty Index (MPI) to analyze living conditions in a few chosen coastal slum communities in Lagos State, Nigeria. The living standard dimension is the focus because indicators under this dimension show conditions that affect both slum people and the environment. Three large slums in Lagos State—Makoko, Ilaje, and Iwaya—were chosen for this study using a cross-sectional survey design. The sample for the study was done using a multi-stage sampling process. A total of 250 respondents were sampled, but only 218 responses were used for further analysis. To accomplish the study's goals, descriptive statistics and fuzzy set analysis were both used. The living standard dimension score reveals that two of the three slums under investigation—Makoko and Iwaya—have extremely substandard living conditions, as indicated by the usage of unfriendly fuels (such wood and charcoal), unhygienic sanitary procedures, and substandard housing units. The scores generated for Ilaje reveal that the area is the least destitute in the indicators studied. However, this does not mean that there is no deprivation in the slum. The study suggests taking preventive measures to lessen the use of dirty energy and eliminate unhygienic habits in the slums.

Keywords: Slums, cooking fuel, sanitary practices, flooring, fuzzy set

Introduction

The high rate of urbanisation has led to the establishment of informal settlements and slums across major cities in the world. Interestingly, the growth of slums in developing countries outstrips that of developed countries. While the growth of urban areas in developed cities averages 0.5% annually, that of developing countries is 2% (United Nations 2015). This is rather disturbing for city planners and governments who are faced with the challenge of infrastructural deficit (Malaviya, and Bhagat 2013, 1646). Therefore, the despicable living conditions experienced in slums are as a result of uncontrolled urbanization. This is vivid in Lagos State, one of the fastest growing economies in Africa (Olatunbosun and Olasunkanmi 2021, 214).

Although there is no single definition of slums, they are often considered to be informal settlements that are home to low-income groups of people. (Olatunbosun and Olasunkanmi 2021, 215; Akanle and Adejare 2017, 3). Thus, the concepts of slum and informal settlements are often used interchangeably (Obaitor et al. 2021). Slum inhabitants frequently encounter silt clay deposits, clayed sand, gravel, among other organic materials sediments because of the terrain of the locations where slums are located. The terrain is marshy, with sediments spreading in an erratic manner that are typically visible on the surface. Slums near coastlines are particularly vulnerable. Flooding is a common issue because they live so close to the waterbodies. (Mahabir et al. 2016, 402). Slum buildings are frequently rusted and ramshackle, with low heights constructed of bamboo and plywood. Since the streets frequently flood, they are impassable to vehicles, rarely dry out, and have planks set up on the pavement for walkers. Tragically, frequent flooding in slums can cause property damage and fatalities. Other traits of these communities include, among others, rubbish disposal in the drainage and on the streets, a power supply that is epileptic, and a high crime rate. (Ige and Nekhwevha 2014, 30; Olatunbosun and Olasunkanmi 2021, 216; Subasinghe 2015, 52). Because slum dwellers must go a distance to get to potable water, it is scarcely accessible. Sanitation methods are affected both directly and indirectly by limited water supplies. This is made clear by unsanitary behaviors. Residents of slums also worry about the availability of electricity, inadequate cooking fuel, and poor housing quality. Due to these difficulties, slum dwellers are trapped in a loop of subpar living conditions, which leaves a significant

portion of them ill. (Abdi et al. 2018, 2; Ssemugabo et al. 2021, 2). Ige and Nekhwevha (2014) stated that the overall living conditions in coastal slums pose a threat to residents' ability to participate in the economy, their health, and their general well-being.

Figure 1 : Flooded Scene at Iwaya slum



Source: Field Survey (2020)

One of the fastest growing economies in Africa is Lagos State, with a Gross Domestic Product (GDP) of more over \$150 billion. Its GDP is estimated to account for more than 25% of Nigeria's GDP. The United Nations World Urbanisation Prospects (2021) noted that two-thirds (about 66%) of the Lagos population live in slums. These slums' living conditions are comparable to those of slums in other major cities around the world (United Nations 2015). Many individuals migrate to Lagos State in search of a lifestyle that is unattainable in rural areas, and this is a key contributing factor to the growth of slums there. (Akanle and Adejare 2017, 5; Emordi and Osiki 2008, 96).

The peculiarity and vulnerability of living in urban slums have been examined by many researchers (Abdi et al. 2018; Mahabir et al. 2016; Ige and Nekhwevha 2014; Ssemugabo et al. 2021). Many of such studies carried out on Lagos State slums used a descriptive approach to examine the living conditions (Akanle and Adejare 2017, 3; Simon et al. 2013, 7; Lukeman et al. 2014, 658). However, a general description and comprehension

of the prevalent way of life may not be sufficient to effectively address slum deprivations and provide inclusivity for slum inhabitants. In addition to providing a basic grasp of the conditions in the slums, it's critical to show how severe they are. Slum dwellers experience such as poor sanitary practices, poor health, substandard education, among others. Therefore, it is crucial for stakeholders and policy makers to understand which deprivations are severe (and may cause more negative effects) and which ones are less dangerous. An analytical technique to comprehend the degree of deprivation across the numerous forms of deprivations in the slums is thus a good development.

The creation of the Global Multidimensional Poverty Index (MPI) in 2010 has helped with an analytical knowledge of diverse deprivations (Alkire & Santos 2010). The Global MPI was developed by the Oxford Poverty and Human Development Initiative (OPHI) and the United Nations Development (UNDP). This index covers three major dimensions (education, health, and living standards), each of which is made up of additional indicators. Over the years, the global MPI has been used to analyze the levels of poverty in various nations; the most recent MPI was released in 2021 (Alkire, Kanagaratnam and Suppa 2021). The index created for Nigeria has frequently shown extreme poverty, however Lagos State has frequently had the lowest value. For instance, the Multidimensional Poverty Peer Network (2018) showed Lagos State had an MPI of 0.06. According to Alkire and Santos (2010), MPI score of 0.33 to 0.50 reveals a state of poverty, while scores 0.50 and above reveals severe poverty. Therefore, the Lagos State MPI can be used to indicate prosperity and the absence of poverty. In fact, Lagos has the highest proportion of households in the highest quintile of wealth, citing the National Population Commission's (2018, 16) examination of households in Nigeria.

Ironically, despite numerous evictions from slums inside the State, it has been stated that a sizable fraction of people in Lagos State still reside in slums (Obaitor et al. 2021, 3; Emordi and Osiki 2008, 101). Unfortunately, the indicators of the MPI (housing, water use, sanitation, and education, among others) are significant problems in the slums of Lagos State, as convincingly demonstrated in published literature (Simon et al 2013; Akanle and Adejare 2017, 3). The global Multidimensional Poverty Index (MPI) living standard dimension details the living conditions evident in slums. Therefore, the low indexes reported for the Lagos State MPI may be due to the absence or inadequate inclusion of slums in the poverty analysis. Of the three dimensions identified, the living standard dimension of the MPI has the most indicators. While the dimensions of education

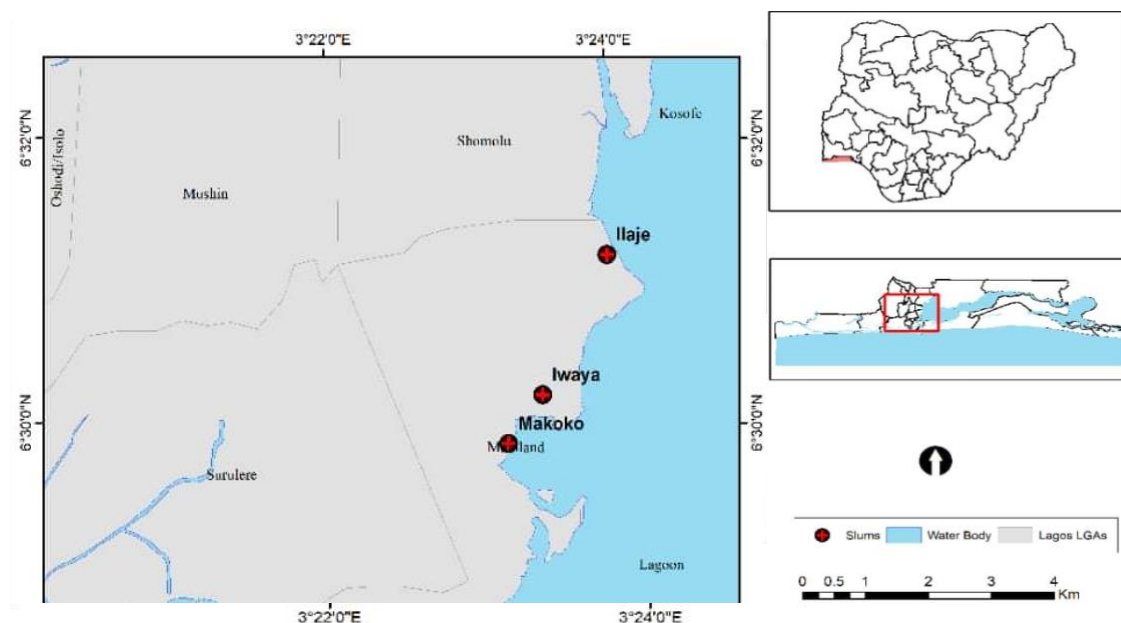
and health each have two indicators, the dimension of living standards has six indicators (Alkire and Santos 2010). These six indicators—water, sanitation, flooring, cooking fuel, electricity, and assets—touch on problems that affect both slum people and the environment. Consequently, this research sets a focal lens on the living standard dimension of the MPI in the context of some chosen slums in Lagos State, Nigeria, for the purpose of in-depth debate.

Methodology

Study Area and Sample Size

Makoko, Iwaya, and Ilaje have been recognized as some of the largest coastal slums in Lagos State (World Bank 2015). Makoko and Iwaya are situated in the Yaba Local Government Area of Lagos State while Ilaje is situated in the Bariga Local Government Area. These localities are dominated by largely the Egun and Ilaje-speaking natives (Okorowa 2019). These areas are also near to the Third Mainland Bridge and the Lagos Lagoon.

Figure 2: Map showing Selected Study Area



Source: GIS Remote Sensing Lab, Department of Geography, UNILAG (2022)

All male and female household heads residing in the slums make up the study's population. The multi-stage sampling technique was used to choose the samples in order to achieve a sample size that was representative of the population. Community leaders assisted with the sampling procedure. This is due to the fact

that they are more accustomed to the communities and might recognize areas that are densely populated within the communities.

The population of the study covers all the male and female household heads living in the slums. The first stage involved cluster sampling while the second stage involved simple random sampling in each of the clusters. Two (2) densely populated locations were sampled at Makoko as two (2) clusters; and in order to ensure an even distribution of respondents, 25 respondents were selected from each cluster. Also, 100 respondents were sampled from 2 clusters at Iwaya (50 respondents from each cluster). Lastly, 100 respondents were sampled from 3 clusters at Ilaje (35, 35 and 30 respondents from each cluster). Altogether, 250 respondents were selected for the study. The respondents' readiness to engage in the survey and the little language barrier also had an impact on the simple random sampling of respondents. Most of the responders at Makoko required an interpreter to translate into Egun Language, and many of them were reluctant to take part because they had previously been threatened with eviction. These factors limited the number of respondents to 50. Some respondents could not participate fully in the survey, leading to incomplete questionnaires. Thus, only 218 valid responses were used for the analysis. To create a structured questionnaire for this study, the Nigeria General Household Survey (2006/2007) questionnaire was modified. Because many of the items on this questionnaire focus on the indicators of the living standard dimension, it is pertinent to the current study. ¹ Following are some of the pictures taken during the field work at the various locations.

¹ The survey was conducted between November 2019 and February 2020. Ethical considerations were also given to the study by ensuring that respondents understood the purpose of the field work and were not coerced into participating in it. Also, pictures were taken after permission was gotten from the respondents.

Fig 3: Researcher with a male respondent at Makoko



Fig 4: Enumerator with a female respondent at Makoko



Fig 5: Researcher with a male respondent at Iwaya



Fig 6: Researcher with a female respondent at Ilaje



Sources: Author's Field Survey (2020)

Estimation Technique

Descriptive statistics and fuzzy set analysis were used. The socioeconomic characteristics of respondents were revealed using descriptive statistics (frequency tables). On the other hand, the fuzzy analysis indicated the extent to which slum inhabitants used various types of cooking fuel and adhered to hygienic practices. The fuzzy set theory identifies the degree of membership on scale of 0 to 1 (where 0 implies full non-membership and 1 implies full membership) (Zadeh 1965). Thus, scores close to 0 reveal lesser deprivation while scores close to 1 show higher deprivation.

Cerioli and Zani (1990) expanded on the fuzzy set analysis and suggested a few procedures for quantifying multidimensional poverty. The following significant procedures have also been modified for the current study:

- i. Variable Identification: This refers to identifying the major variables which aptly measures the various indicators and dimensions of living standard.
- ii. Carrying out factor analyses: This is to ensure that all the items are appropriate for the dimension being measured. This was done relative to previous living standard measures in the MPI.
- iii. Assigning weights to each indicator: Weights are assigned to the indicators based on their severity in the slums
- iv. Calculation of the indicators to estimate the living standard deprivation: For individual i , aggregated sum of items in a group $h= 1, 2, 3, \dots, m$ is given as the weighted sum over the group of items:

$$LSI = \frac{\sum_h LSI_{hi}}{m}$$

Where LSI= Living standard index.

In the evaluation of a deprivation, Alkire and Santos (2010) offered two cut-off criteria (0.50 and 0.33). Scores between 0.33 and 0.49 indicate non-severe deprivation, whereas scores between 0.50 and higher indicate severe deprivation. The discussion of the deprivation scores in the areas takes these cut-off marks into account.

Data Presentation and Discussion of Findings

Descriptive Statistics

Table 1 reveals the socioeconomic characteristics of respondents. The gender distribution in At Makoko, 68 percent of responders were men, the largest percentage in the locations. Male respondents made up 41 percent and 45 percent of the respondents at Iwaya and Ilaje, respectively. The majority of respondents in Iwaya and Ilaje were between the ages of 26 and 35, whereas the majority (52 percent) of respondents in Makoko were between the ages of 18-25. In all of the areas, the majority of people in these age groups are married and have at least five family members living with them. However, 10% of respondents at Makoko reported having households with 10 or more people. When the whole response size from the place is considered, this is fairly significantly high. In Makoko, Iwaya, and Ilaje, the percentages of respondents with only a primary education were 86, 71, and 41%, respectively. This demonstrates how little formal schooling there is in the majority of slums. On the other hand, some respondents (17%) of respondents at Ilaje had up to a tertiary level of education and this is quite commendable.

Table 1: Socioeconomic Characteristics of Respondents

Variables		% distribution in Makoko	% distribution in Iwaya	% distribution in Ilaje
Gender	male	68	41	45
	female	32	59	55
Age Group	25 and below	52	26	15
	26-35	38	33	28
	36-45	8	22	24
	46-55	2	9	17
	56-65	0	7	7
	above 65	0	4	8
Years of formal education	none	86	71	42
	1-6	10	6	10
	7-12	4	20	31
	13-16	0	2	10
	above 16	0	1	7

Household size	4 and below	32	32	28
	5-7	50	55	53
	8-10	8	9	15
	above 10	10	5	3
Years of living in community	10 and below	20	44	45
	11-20	64	38	31
	21 and above	16	18	24
Marital Status	single	2	5	13
	married	96	88	83
	Divorced/separated	2	4	1
	Widowed	0	4	3
Occupation	fishing (processing and sales)	62	18	11
	Water transport	0	1	2
	Petty trading	10	40	44
	Artisan	28	28	26
	Others	0	13	17

Source: Author's Computation

The majority (64 percent) of respondents at Makoko had lived in the community for between 11 and 20 years, which was discovered in order to establish how long inhabitants had been there. Even more notable is the fact that the bulk of these individuals were born and raised in slums. On the other hand, most of the respondents from Iwaya and Ilaje had lived in the slums for fewer than ten years. Further research found that many of these persons had previously resided in neighborhoods with comparable living circumstances. Despite being located near water sources, fishing is not the main employment in neighboring slums, as 62% of respondents from Makoko report doing it. Petty trade is a common occupation for residents in the slums of Iwaya and Ilaje. This is also consistent with findings from a similar study by Lukeman et al. (2014).

Decomposition of Living Standard Practices by Location

Water and sanitation are opined to be two major living standard challenges that slum dwellers experience (Arias-Granada et al. 2018; Adeniran, 2018). As a result, in contrast to the traditional method of applying an equal weighting scheme, the indicators for water and sanitation are given greater weights compared to other indicators. The breakdown of the deprivations is shown in Table 2.

Table 2: Fuzzy decomposition of Living Standard Index across the communities

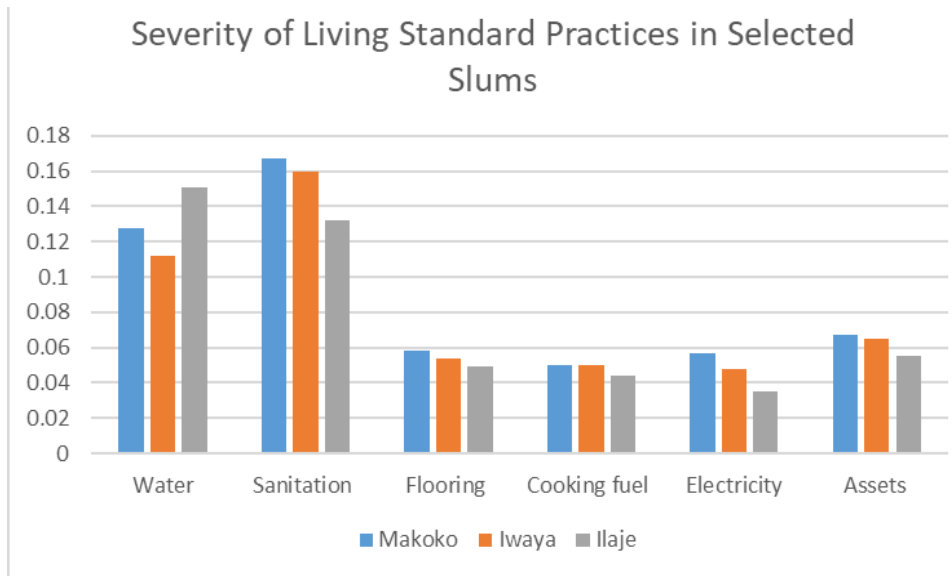
Indicator (weight)	Makoko	Iwaya	Ilaje
Water (0.333)	0.128	0.112	0.151
Sanitation (0.333)	0.167*	0.160*	0.132
Flooring (0.111)	0.058*	0.054*	0.049*
Cooking fuel (0.111)	0.050*	0.050*	0.044
Electricity (0.111)	0.057*	0.048*	0.035
Assets (0.111)	0.067*	0.065*	0.055*
Living Standard Index (LSI) (1)	0.527	0.488	0.465

* Scores reveal severe deprivation and are shaded in red

Source: Author's Computation

Three of the six indicators that were analysed have lower scores and lower deprivation levels in the Ilaje slum. Compared to the Makoko and Iwaya slums, the Ilaje slum is less densely populated, with the majority of its residents living on dry land. . This affected the way people lived in the Ilaje slum and is likely what caused the lower scores to be recorded.

Table 3: Severity of Living Standard Practices in Selected Slums



Source: Author's Computation

Ilaje has the worst access to enough water at a fair price, followed by Makoko and Iwaya, according to the decomposition of the indicators examined among the three slums. The fact that they had to rely on truck pushers to bring them water every day infuriated many residents of the Ilaje slum. Many individuals have complained that they are unable to obtain borehole water supplies because of the topography of the area. Despite the Ilaje slum's location on a dryland and its close proximity to a water body, water delivery to the slum requires truck pushers to travel a long distance. A particular respondent at Ilaje further revealed the situation is worse during the rainy season. Due to the fact that many residents have closer proximity to water supply and at reasonable prices, the water indicator in the slums of Makoko and Iwaya is not severe. Although household heads grumbled about having to handle water management since they must pay for it, it is important to note that this is not a significant burden for them.

The three locations' cleanliness ratings show that Makoko slum residents have extremely unsanitary and unhealthy sanitary practices. The components of the sanitation indicator comprise of toilet facility, usage of soap and water, waste management, and personal hygiene. Makoko and Iwaya have a severe sanitation index, according to the indicator's total score. Ilaje's score was below the threshold of 0.16, indicating that the lack of access to sanitation there is not severe. In Makoko and Iwaya, many citizens poured their trash and sewage into the streams, and many homes lacked adequate toilet facilities. Residents of Ilaje slum had comparatively well-organized means of disposing of trash and sewage,

unlike Makoko and Iwaya residents. Many slum residents in Ilaje explained using Lagos State Waste Management Authority (LAWMA) to dispose their refuse but this provision is rarely made available at Makoko and Iwaya. The locations of these slums on the waterways might have contributed to this. Therefore, residents have resorted to dumping their wastes into the water. This pollutes the water giving it a blackish colour.

The flooring indicator score for all the locations shows that all the communities are severely deprived. The components of the flooring indicator include housing type, roofing, and flooring materials. The severe deprivation is not unconnected with poor housing units made of wood, roofs made of metal sheets and sandy floors in most of the locations. Interestingly, some residents at Makoko opined that they had lived in the wooden structure all their lives without experiencing a collapse. However, these structures are vulnerable to natural disasters such as flooding and firebreak. Again, these wooden housing units are susceptible to the unclean cooking fuel used in the slums. Such cooking fuels include charcoal, firewood, sawdust, amongst others. A sizable proportion of respondents in Ilaje claimed to be utilizing cooking gas, compared to the extremely few homes in Makoko and Iwaya who have adopted its use. As a result, Ilaje's cooking fuel score fell below the threshold. Most households also lack basic household assets such as television, adequate furniture, and any form of vehicle and this accounted for the high deprivation score. The environmental impact of these two measures, however, might not be as significant as that of the other four indicators. This is due to the direct effects that the other four indicators – water, sanitation, cooking fuel, and electricity – have on the environment.

Table 4: Ranking of Deprivation across Study Area

Indicator	Makoko	Iwaya	Ilaje
Water	2nd	2nd	1st
Sanitation	1st	1st	2nd
Flooring	4th	4th	4th
Cooking fuel	6th	5th	5th
Electricity	5th	6th	6th
Assets	3rd	3rd	3rd

Source: Author's Compilation

The rank of each deprivation is presented in Table 3. Between water and sanitation, sanitation takes the lead in Makoko and Iwaya, while water comes second. However, at Ilaje, the key living standard problem is water, while sanitation comes second. Therefore, with better access to water in Ilaje, sanitation practices would likely improve. At Makoko and Iwaya however, access to water may unlikely lead to better sanitary practices since unhealthy living standard practices in the slums are as a result of improper disposal of refuse. It is not surprising that assets and flooring deprivation takes the third and fourth position for all the slums due to the nature of housing units and household assets in the slums. However, this is not a concern for the health of the residents and the environment. The ranking of the last two indicators (cooking fuel and electricity) follows a similar pattern for Iwaya and Ilaje. Electricity comes fifth in Makoko and cooking fuel, sixth. However, in Iwaya and Ilaje, cooking fuel comes fifth and electricity sixth. The ranking demonstrates how slightly different each slum's living conditions are.

Conclusion

The study examines the intensity of inappropriate living standards in selected coastal slums in Lagos State, Nigeria. The communal approach to the analysis of deprivation rather than a regional or national approach made it possible to conduct a thorough investigation of living standard deprivation. Also, it showed the degree of indicator deprivation in each community. The study reveals the residents in the three locations are severely deprived in at least three of the measured indicators. The living standard index shows that Makoko residents have the highest and severe living standard index. However, across all the locations, deprivation in water, sanitation and assets is more severe.

Basically, inappropriate disposal of wastes into the ocean is a common practice in Makoko and Iwaya and this contributed to the sanitation indicator ranking 1st in these two locations. Continuous habitation within the polluted environment is bound to negatively impact on the health of the slums dwellers and even city dwellers at large, if uncurbed. It is therefore recommended that practices that lead to severe deprivation in the slums should be curbed through effective monitoring and provision of facilities at affordable prices. LAWMA and other PPP arrangements for waste disposal should proactively ensure appropriate waste disposal mechanism for the slums. Also, there should be proper channeling of wastes from households instead of direct disposal in the ocean.

Lack of access to water supply is the most severe deprivation in Ilaje, although it is the second worst deprivation in Makoko and Iwaya. Poor access to water influenced sanitary practices in the slums and this must have influenced both water and sanitation indicators raking close to each other. Since the slums are located close to large water bodies, proper recycling of this resource can ensure adequate water supply to the communities. Deprivation in asset is the third most severe deprivation in the communities. This shows that assets such as furniture, television, and other basic household items are not owned by majority of the households. The impact of this on the health of residents and the environment is however negligible compared to the water and sanitation indicators.

Also, the primary sources of cooking fuel in Makoko and Iwaya are largely charcoal and firewood (for fish processing), which is rather unhealthy for a nation poised at ensuring an eco-friendly environment for its citizenry. Although it might not have an immediate effect on the environment, the slums' electricity supply is also unstable, forcing many people to seek alternative forms of energy to keep their homes lit. This could be detrimental to the environment.

Suggestions for Further Study

The MPI has three (3) dimensions: those related to health, education, and living standards. Due to the vast array of variables that make up the living standard dimension, this study only focused on it. These indicators also highlight living standards that are not only unhealthy for slum residents but also detrimental to the ecosystem. The impact of the health and education elements on long-term economic production and development can be examined in future research.

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