Full paper

International Journal of Real Estate Studies

INTREST

Revitalizing a Traditional Market Space in Ile-Ife, Nigeria: An Analysis of Environmental Quality Indicators and Policy Implications

Oluwafemi Samson Fajoye[1], Amos Oluwole Taiwo[2]*, Oluwafemi Michael Odunsi[2], Olanrewaju Timothy Dada[2], Temitope Muyiwa Adebara[2]

[1]*Department of Urban and Regional Planning, Obafemi Awolowo University, Ile-Ife, Nigeria*
[2]*Department of Urban and Regional Planning, Olabisi Onabanjo University, Ago-Iwoye, Nigeria*

*Corresponding author's email: taiwoamosoluwole@gmail.com

Article history: Received: *3 July 2023* Received in revised form: *15 November 2023*
Accepted: *12 December 2023* Published online: *31 December 2023*

Abstract

Traditional market settings in Nigeria have been observed to be poor in environmental quality and less conducive for human physical and economic wellbeing. The physical conditions of the markets have been used to draw conclusions in livability of the space. Policy options to revitalize the overall environmental quality of market spaces require users' inputs. The study, therefore, examined the environmental quality of a traditional market space in Nigeria, specifically focusing on Odo-Ogbe in Ile-Ife, and explored the potential for policy interventions to revitalize the market. The study was carried out among everyday users of the market. Information obtained through questionnaire administration was the users' socio-economic backgrounds and twenty-three variables having social, economic and environmental characteristics. Physical observation was also carried out for an all-inclusive environment assessment of the market. Using systematic random and purposive sampling techniques, 119 market users were selected for the survey. Results showed that, the majority of the users were married (64.7%), females (74.8%), who had one form of educational qualification or the other (89.9%). Using an index tagged "Users' Environmental Quality Index" (UEQI), sixteen environmental quality indicators were rated to be important. Among these were "availability of electricity (UEQI=4.68)", "availability of water (UEQI=4.52)", and "clean and healthy environment (UEQI=4.18)". The study recommended that the government concerned with city administration should pull financial and human resources together to provide facilities and services related to users' environmental quality indicator data for effective revitalization of the market space.

Keywords: Market users, Traditional market, Environmental quality indicator, Revitalization, Ile-Ife

1.0 INTRODUCTION

The term 'Traditional market' refers to a place for sellers to sell goods, services and information in order to provide for the needs of consumers (Putra & Rudito, 2015). In cultural terms, the traditional market is the most extensively patronized for goods and services (Onyechi, 2012; Enyia & Kalu, 2018; Agboola, Azizul, Rasidi, & Said, 2018; Balogun, 2020; Olajuyin et al., 2021). For example, there are accessible laborers who could easily load and off-load goods for buyers and sellers in the market. The traditional market also provides ready-made markets for cheap and staple food. The duration of business operation during which people are in contact runs into hours, occasionally from morning till evening, or even late at night.

According to Merlinda and Widjaja (2020), the traditional market is important because it is a center for the distribution of goods and services in society; the knot of local economic strength; increases employment opportunities; contributing to the regional economy; becomes a reference for the price of staple goods that underlies the calculation of the inflation rate, and an indicator of price stability; providing sales facilities, especially for micro, small and medium-sized businesses; and a means of local cultural sustainability. The market is also significant because it serves as both an upstream and estuary of the informal economy which is the backbone of any economy (Merlinda & Widjaja, 2020).

In the Nigerian context, the traditional market has long been an important avenue for the dissemination of important information, whether it comes from the King (Oba) or the government via town criers (incumbent Oba's mouthpiece) (Omole, Lukman, & Baki, 2013; Agboola, Rasidi, & Said, 2017). Various factors account for this, including its central location and the percentage of its residents living there. A common belief is that information announced in the market can easily be disseminated to others. In addition to the general economic significance of market, the traditional market in Nigeria serves as a platform for social and cultural events (Omole *et al*., 2013). Among these are opportunities for singles and youths to meet, visit friends and relatives, exchange political or personal ideas, and participate in socio-cultural activities like festivals associated with dancing, dating, drumming, and reuniting with friends and family members. As a result of these functions, there is usually a high concentration of people and economic activities.

A plethora of literature has shown that the environmental quality of traditional markets in Nigerian cities, including Ile-Ife, is deplorable and appalling due to the agglomeration of economic activities and concentration of people (Adekunle, 2012; Abejegah et al., 2013; Olawuni, Fajoye, & Taiwo, 2018; Taiwo & Fajoye, 2022). The few existing environmental services have been overstretched, and this is also the condition of environmental facilities in the urban centers in which they are located. The markets are characterized by poor and insufficient drainage systems, inadequate parking space, and conflict of human and vehicular traffic, resulting in insecurity of lives and property; bad roads, derelict shops, pollution of all sorts from generators and moving vehicles; epileptic power and water supply, poor refuse disposal, inadequate sanitary facilities, vehicles having difficulty entering into market centers for loading and off-loading of goods. Additionally, it has been noted that several traditional markets lack planning or are poorly managed (Fakere & Fadamiro, 2012). The reason for this is that many of the markets grow up haphazardly and, when situated close to the main road, tend to obstruct the free traffic flow and ruin the aesthetics of the city as a whole. In essence, the environmental quality of market spaces is less conducive to human healthy living. Yet, this public space is used by individuals who gain economically from it regularly.

Several efforts have been made to improve the environmental quality of traditional market spaces in Nigeria. One of such efforts is the establishment of management committees to oversee the maintenance and sustainability of services, facilities, and utilities (Adekunle, 2012). However, it has been observed that no favorable results have been achieved. There are several reasons for the poor results, including the fact that the solutions offered were only formulated by elected and career officials in government. Such solutions lacked the input of the users. It is considered that enduring solutions to poor environmental quality in public spaces, like markets, should be sought from the users themselves. Using information supplied by users on environmental quality is an essential approach of incorporating public participation into public space revitalization. Such information could then be utilized to revitalize such public spaces. Therefore, this study aims to assess the environmental quality of a traditional market space and advocate for policy actions to revitalize the market space. Everyday market users of Odo-Ogbe, the biggest traditional market in Ile-Ife, are the focus of the study. Bearing the general aim in mind, two research questions are formulated: (1) what are the socio-economic characteristics of the users of the traditional market? (2) What are the indicators the market users could use to evaluate their environmental quality to revitalize the market space? Considering the scarcity of financial and human resources today, city planners and elected officials could use the findings of this study to identify priority projects that meet the needs and aspirations of the market users in the study area and other regions with similar socio-economic backgrounds.

■2.0 LITERATURE REVIEW

2.1 Environmental Quality

Understanding the semantics of the phrase "environmental quality" as well as how it is used globally is crucial to properly comprehend the significance of the phrase. Environment is the sum of the conditions that surround an organism or a group of organisms, particularly the mix of external physical conditions that affect and influence the growth, development, and survival of the organism(s); quality is the excellent or exquisite standard connected with human qualities and positive values, such as happiness, wealth, success, health, and contentment (Farlex Incorporated, 2006; Oluwadare, 2015). Because it causes us to consider people, laws, and practices that alter people's lives and their perceptions of environmental quality, this semantic meaning explains why the term influences several sectors.

According to Fajoye (2016), environmental quality refers to the extent to which natural resources—land, air and water— are free from impurities and degradation caused by human activity. Studies on environmental quality have been the focus of numerous scholars in both developed and developing countries (Cloquell-Ballester, Cloquell-Ballester, Monterde-Diaz, & Santamarina-Siurana, 2006; Costanza et al., 2007; Fawole, 2012; Kesalkheh & Dadashpoor, 2012; Fajoye, 2016). The concept means different things to different people, groups, or agencies. Thus, no one can realistically use their own concepts of environmental quality to determine others'. There lies the risk then for policy-makers to use their idea of environmental quality to strategize for others that are not, especially, in the same socio-economic group. According to Costanza et al. (2007), environmental quality is the extent to which objective human needs are fulfilled concerning personal or group perceptions, the feelings of people, and their experiences within the space where they live.

Environmental quality is used to define the link that exists between many elements that either favorably or adversely impact the quality of the environment (El Din, Shalaby, Farouh, & Elariane, 2013; Fadamiro & Adedeji, 2014; Štreimikienė, 2015; Faisal & Shaker, 2017; Adetunji, Alabi, & Oyeleye, 2018). According to RIVM (2002), environmental quality is an essential component of the wider idea of "quality of life," which includes elements like health and safety as well as comfort and beauty. It is how a place is viewed as a whole, with its constituent parts — nature, open space, infrastructure, the built environment, amenities in the physical environment, and natural resources — having unique qualities and characteristics (Van Kamp, Leidelmeijer, Marsman, & De Hollander, 2003).

Over the years, environmental quality has been developed to address problems that directly and indirectly affect human lives, including those related to health, the environment, livability, and housing. In addition, the idea has substantially increased in relevance in terms of tracking advancements made in enhancing wellbeing, thus, contributing to the achievement of sustainability goals and objectives. Environmental quality also aids local and regional governments in contextualizing pertinent policies and initiatives to promote sustainable regional development in more holistic and multidisciplinary ways (Costanza et al., 2007).

2.2 Indicator

The measurement of environmental quality is generally undertaken using indicators (Lehane, Le Bolloch, & Crawley, 2002; Bockstaller & Girardin, 2003). An indicator, as defined by the European Environment Agency in 2005, is a measure that is often quantitative and may be used to describe and convey intricate phenomena, including trends and advancement through time. An indicator is a symptom or indication that exposes something with a high degree of confidence, provides proof, and has a greater relevance than what is actually assessed for a bigger phenomenon of interest (Donnelly, Jones, O'Mahony, & Byrne, 2006). These researchers noted that an indicator helps to make a

trend or phenomenon that is not immediately apparent observable or provides a tip to an issue of greater relevance. Additionally, it aids in reducing the amount and complexity of information that decision-makers require.

Several arrays of indicators have been developed to tackle specific environmental issues. For instance, the Organization for Economic Cooperation and Development (OECD) (2004) in its study identified eleven major environmental quality indicators covering issues that reflect the main environmental concerns in OECD countries. These were classified into three broad headings of: environmental, environmental condition and society's response. In a similar vein, Majumder, Hossain, Islam, and Sarwar (2007) classified environmental quality indicators into three different environmental groups. These were: physical, neighborhood and social environments. The physical environment is concerned with quality of air, trees within the area, number of garden, parks or open spaces, water quality, noise, transport availability, overall visual quality, among others. While the neighborhood environment comprises water supply, electricity supply, telephone services, sewerage system, drainage system, sanitation, solid waste management (garbage), recreational facilities, educational facilities, health care and medical services, among others, the social environment includes social life of the people, privacy, community feeling, community activities, religious conflict, among others.

2.3 Environmental Quality Indicators in Nigerian Urban Space

Afon (1998) noted that the failures of city centers in Nigeria result from poor environmental quality. The failures have social, economic and environmental elements, which include safety, accessibility to the transport network, nearness to place of work, nearness to secondary school, availability of electricity, nearness to health facilities, economic opportunities, nearness to one's family, accessibility to public toilets and so on. As noted by Silva, De Keulenaer, and Johnstone (2012), these indicators are likely to influence people's sense of life satisfaction directly and indirectly.

An earlier study by Mabogunje (1974) also submitted that poor environmental conditions of Nigerian cities have social and economic dimensions. Specifically, the study considered how environmental quality could be measured based on social and economic indicators. The scholar categorized the indicators into four. These were: employment; livability, which is the ease of circulation within cities' level of environmental deterioration due to problems of air, water and noise pollutants, housing quality, water and power supply and environmental sanitation; manageability, which involves three attributes, comprising the administration of city activities, ability to generate adequate resources to administer the city and the capacity to anticipate future changes; and serviceability, which is the ability to serve those living within and outside the urban environment. Of paramount importance to this paper are the analyses of Mabogunje (1974), Afon (1998), OECD (2004) and Majumder et al. (2007). Their submissions comprised social, economic and environmental indicators.

Over time, the concerns of market space are the physical attributes, socio-economic values and users' emotions (Halpenny 2010; Li *et al*. 2018). The physical attributes of market space reflect environmental conditions, which provide opportunities for interpersonal relationships (Carmona, 2021; Adinyira E, Hasselt H, & De Wal, 2017). Similarly, the social aspects of market space are related to the manner of usage and activities that occur. The physical dimension interlaces with the environmental conditions to provide a milieu for social interaction (Agboola, 2021).

Most traditional markets in Nigeria began as periodic markets before some of them were now transformed into daily markets. Consequently, markets are classified according to their modes of operation and patronage, which culminates in morning and night markets. While the daily market facilitates daily trading activities, the periodic market is primarily patronized during specific periods of the week. As a support for this claim, Omole, Owoeye, and Ogundiran (2012) elaborately classified daily market into morning, day, night, and daily/night markets. As for the periodic markets, their activities vary on a daily, weekly, or monthly basis. It is important to note here that these different categories of markets have one thing in common — poor environmental conditions. The general environmental quality of the markets is nothing to write home about. The markets have poor drainage system, inadequate parking spaces, resulting in enormous congestion; poor road condition, pollution of all sorts from moving vehicles and generators; dilapidated shops; inadequate power and water supply, and so on.

Local government is mostly in charge of markets in Nigeria. The interest of this level of government is largely for revenue generation rather than to serve the public interest. The presence of the Amalgamated Commercial Motorcycle Riders Association of Nigeria (ACOMORAN) and the Motorcycle Owners and Riders Association (ANACOWA) are also noted in the market. These two unions generate revenue for several reasons and in several ways. The users of market spaces can be categorized into two: permanent and transit. Permanent users are those who patronize the market on a daily basis for their own economic activities. These people include traders, vulcanizers, roadside mechanics, roadside hawkers, food vendors, local government rate officers, and motor-cycle operators (okada riders). The transit users are those who visit the market temporarily. The majority of this group of users are customers who patronize the permanent users. Due to differences in users' social and economic backgrounds, especially the permanent users, environmental quality of the market will be assessed differently. However, the aggregate information on assessment of users' environmental quality should be used as inputs to revitalize the market.

2.4 Study Area

There are many markets in Ile-Ife, Nigeria. These include Olubuse, Apollo, Ita-Akogun, Odo-Ogbe, Olorunsogo, Oja Ife, Bonfo, Urban Day, Betterlife, Arubidi, Ondo Road and Bonfo. However, only Odo-Ogbe market was selected for the study. The location of the market relative to other markets is as shown in Figure 1. The market was selected on the basis that it was the biggest and the busiest in the town. Aside from the fact that Odo-Ogbe exhibited the features of a traditional market, it was also the only market that operated daily and periodically in Ile-Ife as at the time of the survey. People from neighboring cities, like Ibadan, Ilesa, Osogbo and so on, troop into the market to trade. The three types of shops at the market were lockable, open, and temporary. Permanent users of the market included traders, vulcanizers, roadside mechanics, drivers, roadside hawkers, food vendors, local government rate officers, and motor-cycle

operators (okada riders). Goods sold by traders in the market included household utensils, textiles, bags, shoes, tubers, grains, plates and plastics, jewelry pieces, cosmetics, and livestock, among others.

Odo-Ogbe Market was initially intended for a small number of users, but as the population grew, so did the number of users, and the market currently has a high patronage level. A casual glance at the market's physical surrounding revealed that it was plagued by several physical and environmental issues, including congestion, drain obstruction, on-street trading, insufficient infrastructure, bad roads, dilapidated shops, pollution from generators and moving vehicles; epileptic power and water supply, poor refuse disposal, among others.

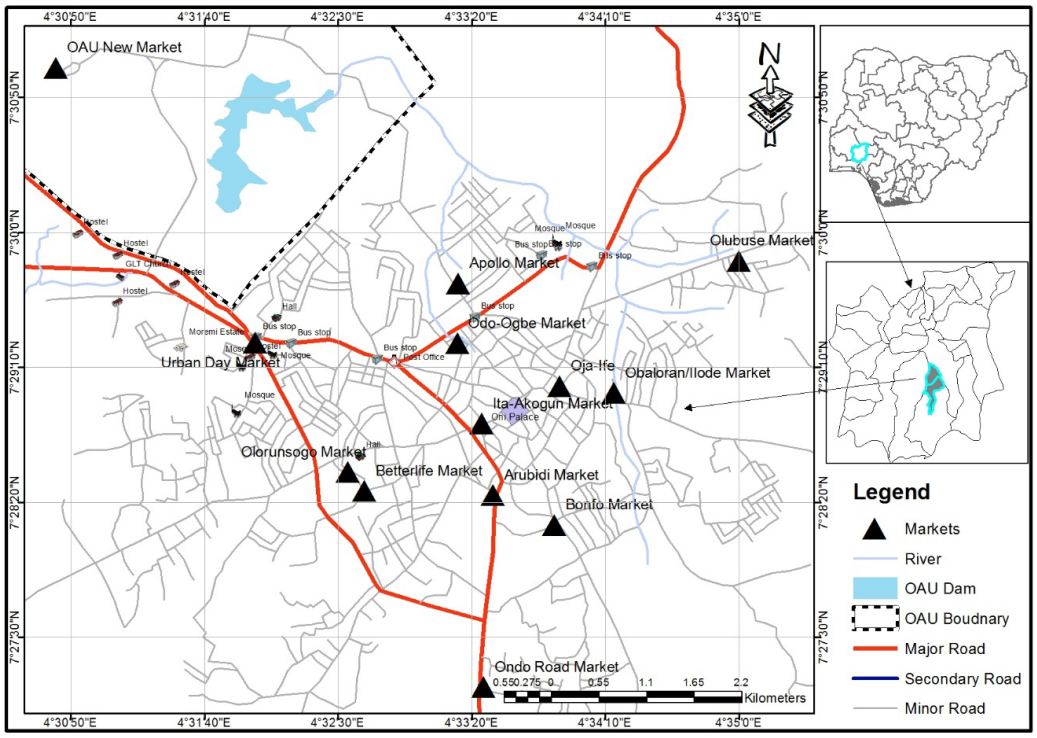

Figure 1 Map of Ile-Ife showing Odo-Ogbe market relative to other markets

3.0 METHODOLOGY

3.1 Data Collection

Data for this study were collected from the permanent users of the market. A quantitative research design was adopted to collect the data. This was because the design allows for the use of a structured questionnaire survey that permits researchers to generalize their findings from a population sample (Creswell, & Clark, 2017). Different techniques were used to obtain data from the identified users. Samples were selected from the users of locked-up stalls through systematic random sampling. The first shop was chosen randomly. Subsequent unit of investigation was every 10th shop. In a similar vein, 50% of the vulcanizers identified in the market were surveyed. Three persons in each mechanic workshop were selected for the survey. One out of every five traders, including food vendors and meat sellers, in locked-up stalls and those operating in specific open spaces and temporary stalls were surveyed. A purposive sampling technique was employed to select one street hawker within an average distance of fifty meters. Three members from each of the two unions operating close to the market (ACOMORAN and ANACOWA) were selected for study. Using these techniques, a total of 119 questionnaires were administered in the market.

3.2 Data Analysis

The users' socio-economic attributes were captured in the questionnaire, and the data obtained were analyzed using simple frequency counts. Also included in the questionnaire were twenty-three (23) environmental quality indicators, which the users were asked to rate using a 5-point Likert's scale of 'Very Important', 'Important', 'Just Important', 'Not Important', and 'Not at all Important'. In analyzing the data collected on the indicators, each of the above ratings was assigned a weighted value of between 1 and 5 to arrive at UEQI. The Total Weight Value (TWV) was then calculated for each indicator.

The TWV was arrived at by adding up the product of the number of responses for the rating of each indicator and the respective weight value for each rating. The UEQI was finally obtained by dividing TWV by the total respondents that rated each indicator. Thus, for indicator i-j

$$UEQI_{i-j} = \frac{TWV_{ij}}{N_{ij}}$$

Where:
$UEQI_{ij}$= Users' Environmental Quality Index for indicator i-j
TWV_{ij}= Total Weight Value of indicator i-j
N_{ij} = Users' rating of each indicator i-j

For instance, a UEQI of 3.17 was calculated for economic opportunities in Odo-Ogbe market, thus:
TWV = (10 x 1) + (50 x 2) + (9 x 3) + (10 x 4) + (40 x 5)
= 377
UEQI = 377 ÷ 10 + 50 + 9 + 10 + 40
= 377 ÷ 119
= 3.17

The above process was used for all the indicators. The indicators were then arranged in order of importance based on UEQI. Several studies have been conducted where people's views on various attributes of the urban environment were determined through similar ratings in different regions of the world. Such studies include Opricovic and Tzeng (2003), Afon (2007), Taiwo, Agbabiaka, Adeyeni, and Dada (2019), Taiwo and Fajoye (2022), and Adebara et al. (2023).

■4.0 RESULTS AND DISCUSSION

4.1 Socio-Economic Attributes of the Traditional Market Users

The breakdown of the users' socio-economic attributes, as shown in Table 1, established that more females (74.5%) than males (25.5%) were operating in the market. The predominance of females in informal sector activities could be attributed to the fact that the market is an institution that gives women a higher measure of economic opportunity and social security than men (Olawuni et al., 2018). For ease of analysis, the users' ages were grouped into four: 21-30 years (youth), 31–45 years (young adult), 46–60 years (adult), and above 60 years (aged). The study established those youths and young adult constituted 10.1% and 39.5%, respectively. In essence, 49.6% of the users were in the age bracket of between 21 and 45 years. This implied that most of the people operating in the traditional market were within the active or working population, full of energy and ambition. While the adults represented 34.5%, the aged accounted for 16.0% of the market users.

Table 1 Socio-economic attributes of the market users

Gender	**Frequency**	**Percent**
Male	30	25.2
Female	89	74.8
Total	**119**	**100.0**
Age (in years)		
21-30 (Youth)	12	10.1
31-45 (Young Adult)	47	39.5
46-60 (Adult)	41	34.5
Above 60 (Aged)	19	16.0
Total	**119**	**100.0**
Marital Status		
Single	24	20.2
Married	77	64.7
Separated	6	5.0
Widowed	12	10.1
Total	**119**	**100.0**
Educational Level		
No Formal Education	12	10.1
Primary School	30	25.2
Secondary School	66	55.5
Tertiary	11	9.2
Total	**119**	**100.0**
Number of hours spent in the market		
6-7	36	30.3
8-9	43	36.1
10-11	40	33.6
Total	**119**	**100.0**

Investigation into the marital status of the market users showed that while 64.7% of the users were married, 20.1%, 10.1% and 5.0% were single, widowed and separated, respectively. This implied that the married users might be with their children in the market. The possible presence of their kids in the market could put pressure on the available environmental facilities. Results showed that a good proportion (89.9%) of the users had one form of education or the other. This accounted for the reason they could manage their finances since education enhances the capacity of people to understand, manage, and work with innovations and ideas (Taiwo & Fajoye, 2022).

Further investigation showed that 36.1% of the market users spent between 6 and 8 h daily in the market. While the proportion of users that expended 10–11 h was 33.6%, those that stayed between 6 and 7 h accounted for 30.3% of the users. The minimum and maximum hours the market users spent in the market daily were 6 and 11, respectively. This implied that people who spent such number of hours in the market daily had seen the public space as their second home. Therefore, frantic efforts must be made to revitalize the overall environmental quality of the market space based on the users' assessment of the environmental quality indicators.

4.2 Indicators the Market Users Used to Evaluated their Environmental Quality

The degree of importance placed on each of the environmental quality indicators, denoted by Users' Environmental Quality Index (UEQI), is presented in Table 2. Of importance to this study is the identification of sixteen most important indicators. In essence, these indicators showed that they were purely the immediate needs of the market users for survival. The indicators included *availability of electricity, availability of water*, *clean and healthy environment, quality and reliability of services and facilities provided by the government, proximity to health care facilities, good physical condition of shops, good condition of roads and parking spaces, interpersonal relationship that exists between users, availability of fire service, availability of open spaces, and the kind of shop I want.* Others were *proximity to the place of residence, proximity to recreation facilities, access to the waste disposal facility, the support you get from one another* and *access to public toilets.*

From the table, the most important indicator was the *availability of electricity* with UEQI of 4.68, while the least was *absence of air pollution* with UEQI of 1.80. Given that the *availability of electricity* was rated as the most important indicator, it was indeed highly required by the market operators. During the survey, it was observed that most users resorted to personal generating sets to power their shops because they were not enjoying power from the Ibadan Electricity Distribution Plc (IBEDC), even though they were connected to electricity supply lines. It is important to note that IBEDC is the only power company licensed in Nigeria to supply electricity to households and public spaces in Oyo, Ogun, Osun, Kwara, and parts of Niger, Ekiti, and Kogi states. It should be noted that using generator could result in low productivity among the market users, and a majority of them would have to spend their hard-earned income buying fuel to power their generators despite the health risks associated with carbon monoxide inhalation.

The water supply in Odo-Ogbe market was generally a serious and alarming issue due to government negligence in providing water for the market users. It was observed that the only bore-hole provided in the market to supply water was not functioning (See Figure 1). While some of the market users had to travel a long distance in search of water, others, like the meat sellers, depended on personal wells dug within the meat processing areas as their main source of water supply. This can pose serious health risks to the people. This is because the water would have been contaminated, as most of the wells were not covered, while the water was used without treatment. As pointed out by Bello and Oyedemi (2009), pathogens from cattle waste could spread to humans through water-based recreations. The wells in the meat processing areas were often polluted by effluent and could constitute health risks for the butchers and other users of the wells. Corroborating this assertion, Kilanko-Oluwasanya (2009) averred that diarrhea, typhoid, cholera and dysentery, which come with stomach cramps and stooling, are diseases that surface as a result of the consumption of water from such wells.

The users' desire for a clean and healthy environment indicated that the traditional market was characterized by poor environmental management. Undeniably, the conditions of the market environment, including roads, parking spaces, toilets and shops, were a dismal litany of woes. Heaps of refuse were a common sight at most designated and undesignated points. This was also the situation in the city center. The consequences of these are the creation of breeding places for snakes, termites, cockroaches, rodents and mosquitoes, which cause malaria and other diseases. See Figure 1 for some of the poor environmental conditions of the study area. The study noted that the Local Government Council and the registered contractor(s) were responsible for the management of solid waste in Ile-Ife. As part of the management model, all solid waste generated by the market users would be collected at the designated sites and disposed of by the agency or contractor. The serious challenge observed in the study area was that some locations were not accessible to waste collection vehicles because of the nature of the roads. This implied that more consideration was given to areas that the solid waste collection vehicles could easily access when waste was due for collection. Considering the persistent upsurge in market waste generation, the study observed that the number of days it takes the vehicles to collect waste is inadequate, since the waste is so much that it piles up in undesignated points, and becomes a nuisance to the market users. Also, the market users resorted to littering and dumping of solid waste at any available open spaces, like road sides, open drains and uncompleted buildings within and around the market. Responsible for this, as observed in the course of the survey, was that waste disposal facilities were not provided. Perhaps this was why *access to waste disposal facility* was rated high by the market users, which meant that it was highly required.

Figure 2 A heap of waste awaiting collection; non-functioning bore-hole; indiscriminate disposal of waste into the drainage system in Odo-Ogbe market
(Source: Field Survey, 2016)

It was also observed that there was no provision for organized parking space in the traditional market to cater to the parking of vehicles of traders and other users. This deficiency encouraged on-street parking of vehicles. The situation was worsened by on-street trading that characterized the market, which had serious effects on traffic flow (See Figure 2). This made it extremely difficult for vehicles to access the roads for loading and off-loading of goods within the market. All these issues also accounted for the reason why "quality and reliability of services and facilities provided by government" as an indicator was required, and also importantly rated by the users.

Furthermore, the study noted that the structural condition of shops in the market could be regarded as derelict and gone to rack and ruin. It was found that all lockable structures (both abandoned and functional) in the market were roofed with corrugated roofing materials, but the construction materials for the walls varied from one section of the market to another. The corrugated roofing sheets dominating this market were in a deplorable state, with some respondents reporting that their roofs would leak whenever it rained, which soaked the interior walls and ceilings. Having walls and ceilings soaked creates a bad smell in structures, thus, causing respiratory problems. Some lockable shops were built with cement block and rendered with cement, while others were constructed with mud and plastered with cement, and had cracks within and outside of the structures. Most of the market stalls were open and temporary sheds constructed of timber and rusting, galvanized iron sheets on crumbling bamboo pole rafters. All these are reflected in Figure 2. At this point, it is important to say that except adequate revitalization programs are carried out, a clean and healthy environment for working will be a mirage.

Figure 3 Dilapidated and abandoned shops; obstruction of traffic flow due to on-street trading; temporary sheds
(Source: Field Survey, 2016)

Table 2 Importance users attached to environmental quality indicators in Odo-Ogbe market

Indicator	UEQI	Mean Deviation
Availability of electricity	4.68	1.05
Availability of water	4.52	0.89
Clean and healthy environment	4.18	0.55
Quality and reliability of services and facilities provided by the government	4.07	0.44
Proximity to health care facilities	4.03	0.40
Good physical condition of shops	4.01	0.38
Good condition of roads and parking spaces	3.99	0.36

The interpersonal relationship that exists between market users	3.98	0.35
Availability of fire service	3.87	0.24
Availability of open spaces	3.85	0.22
The kind of shop I want	3.83	0.20
Proximity to the place of residence	3.73	0.10
Proximity to recreation facilities	3.68	0.05
Access to waste disposal facility	3.66	0.03
The support you get from one another	3.65	0.02
Access to public toilets	3.64	0.01
Access to the transport network	3.51	-0.12
Safety	3.40	-0.23
Absence of noise pollution	3.25	-0.38
Economic opportunities	3.17	-0.46
Police service in the market	3.11	-0.52
Absence of water pollution	1.93	-1.70
Absence of air pollution	1.80	-1.83
Mean	**3.63**	

The seven least important indicators to the market users were *access to transport network, safety, absence of noise pollution, economic opportunities, police service in the market*, *absence of water pollution and absence of air pollution*. These were with UEQI of 3.51, 3.40, 3.25, 3.17, 3.11, 1.93 and 1.80, respectively. These indicators were unimportant to the market operators because related services and conditions existed reasonably. For instance, economic opportunities were readily available in the market. Users engaged in services and sales of different commodities, thereby creating a kind of livelihood for themselves. In addition, *police service* was rated low in importance because security was made available in the market. This also explains why *safety* was ranked low in importance. The low rating of "absence of water pollution" and "absence of air pollution" implied that the statements were not true reflections of the market environment. In reality, water pollution and air pollution were common phenomena in the market.

■5.0 CONCLUSION

This study concluded that having adequate information on the environmental quality indicators of Odo-ogbe traditional market space and implementing revitalization programs based on such information will be an effective and efficient strategy of not only making the space more conducive for operation but also more attractive.

The study established that availability of electricity, availability of water supply, clean and healthy environment, quality and reliability of services and facilities provided by the government, physical condition of shops, good condition of roads and parking spaces, interpersonal relationship that exists between market users, availability of fire service, availability of open spaces, and good physical condition of shop, among other facilities, were the immediate needs of the market users for survival. This was because the facilities/services were observed to be awful, deplorable and insufficient. The UEQIs of the indicators explain the situation better. These poor facilities and services, of course, have the tendency of hampering the socio-economic values, health and physical wellbeing of the market users. The policy implications of these are that different policy measures and programs must be put in place, based on the users' environmental quality indicator data, to address the situation.

Programs based on the environmental quality indicator of the traditional market users will meet their basic needs and make the market healthier and attractive to the users. For example, shops that have been abandoned owing to dilapidation should be revitalized. It is of utmost importance that those who would initiate and implement programs of improving and revitalizing the market space have access to environmental quality indicator data of the users; otherwise, solutions proffered will be impracticable and also create ill-feelings. Policy planned on intuition if implemented will, at best, only act as a palliative measure or be miles away to solving the issues.

Meeting the expressed needs of Odo-Ogbe market users of Ile-Ife and other cities, as shown by their environmental quality indicator data, cannot be realized through impromptu planning. Therefore, deliberate and intentional attention must be concentrated on the provision and/or revitalization of the services and conditions. For instance, some users in the study area had to travel a long distance in search of water, while others, including the meat sellers, depended on the wells dug within the meat processing area because the bore-hole provided by the local government in the market was not functioning. Thus, there is a need for the local government to provide functional boreholes, and repair and equip the damaged one with a submersible pumping machine to pump water from the bore-hole to the overhead tank. Pipeline networks could be connected to the overhead tank to distribute water to every shop for use. Initial capitals for such a project could be sourced from the World Bank, Urban Development Bank, or allied agencies. However, financial planning and means to recover costs from the marketers must be effectively worked out. Additionally, there is a need to conduct research to have adequate information on the level of water consumption and patterns so as to have an insight into the magnitude of issues at hand and device lasting solutions.

Electricity supply to the market was nothing to write home about as it was epileptic. While the Ibadan Electricity Distribution Company (IBDC), which was in charge of electricity in Ile-Ife township as at the time of data collection, was seriously working to enhance the power supply in the town in general, and the traditional market, in particular, the users must be well informed on the need to pay their bills and report damaged power-supply equipment promptly. It is also suggested that the local government could secure electric power transformers on terms to be decided upon by the company and the local government. By so doing, a constant power supply will be guaranteed.

A clean and healthy environment was an issue that the market users were confronted with in the study area. This became an issue because of poor environmental management of the users arising from large volume of waste generation, indiscriminate disposal of refuse in available and accessible spaces within and around the market. Of great concern also was the quality and reliability of services and facilities provided by government in the market. It is suggested, therefore, that the solid waste management personnel of the local government and contractors should be up and doing in discharging their responsibilities. Facilities relating to complex issues, like environmental sanitation, must be provided in sufficient quantity, and the system of waste collection should be improved upon such that waste is collected daily so as to strictly keep to the global best practices. Again, it is the opinion of the authors that systematic financial planning for solid waste management should be implemented, and effective and efficient cost recovery approaches must be worked out. This will, in a way, allow the market users to participate in the administration of the affairs of the market.

The government and other stakeholders involved in managing the market operation should embark on rehabilitation of roads and other dilapidated facilities and services in the market space. They must also ensure that facilities such as organized parking spaces and waste disposal systems, among others, are adequately provided. Of importance in making the market environment more usable is conducting environmental education to traders and other market users. Such education should incorporate issues like safe waste disposal techniques, developing maintenance culture, and prudent use of water.

The state and local governments should prioritize all the revitalization activities. When considerable development has been made in these important areas, resources can then be channeled towards enhancing other environmental attributes with lower priority. In addition, an effective and efficient management committee should be constituted with the cooperation of the market users to oversee the maintenance, management and coordination of these revitalized social, economic and environmental facilities or services in the market to ensure sustainability. The committee should also see to the implementation and enforcement of effective general sanitation and orderliness in the market.

Acknowledgement

In recognition of the invaluable contributions made to the successful completion of this study by respondents and research assistants, the authors express their gratitude to all of them.

Ethical Consideration

The researchers obtained informed consent from the market users before administering the questionnaire. The research was guided by ethical principles of anonymity, voluntariness, and non-maleficence. Furthermore, ethical guidelines and institutional review board requirements were duly followed.

References

Abejegah, C., Abah, S. O., Awunor, N. S., Duru, C. B., Eluromma, E., Aigbiremolen, A. O., & Okoh, E. C. (2013). Market sanitation: A case study of Oregbeni market Benin-city Edo State, Nigeria. *International Journal of Basic, Applied and Innovative Research*, *2*(2), 25-31.

Adebara, T. M., Adebara, O. B., Odufuwa, B. O., Badiora, A. I., Taiwo, A. O., Dada, O. T., & Odunsi, O. M. (2023). Compliance with open space standards in residential areas of Oyo, Nigeria. *Journal of Asian and African Studies* https://doi.org/10.1177/00219096231197722.

Adetunji, M. A., Alabi, A. T. & Oyeleye, O. I. (2018). Assessment of Built Environment Quality in Ogbomoso, Oyo State, Nigeria. *International Journal of Physical and Human* Geography, 6 (2); 1-10

Adinyira E, Hasselt H, De Wal E (2017) Building a resilient market place in Africa: a case for stakeholder participation. ICIDA 2017—6TH international conference on infrastructure development in Africa—12-14 April 2017, KNUST, Kumasi, Ghana

Afon, A. O. (1998). *Perception of environmental quality of the core of Ogbomoso in Oyo State* (Doctoral dissertation, Department of Urban and Regional Planning, Obafemi Awolowo University).

Afon, A. O. (2007). Informal sector initiative in the primary sub-system of urban solid waste management in Lagos, Nigeria. *Habitat International*, *31*(2), 193-204. https://doi.org/10.1016/j.habitatint.2007.02.007

Agboola, O. P., Rasidi, M. H., & Said, I. (2017). The influence of open space utilization on residents' attachment with community: A case study of rural market square in southwest Nigeria. *Archnet-IJAR*, *11*(1), 44-66.

Agboola, O. P., Azizul, M. F., Rasidi, M. H., & Said, I. (2018). The cultural sustainability of traditional market place in Africa: A new research agenda. *Journal of Rural Studies*, *62*, 87-106. https://doi.org/10.1016/j.jrurstud.2018.07.001

Agboola, O. P. (2021). The significance and users' perceptual evaluation of traditional market spaces in Nigeria. *SN Social Sciences*, *1*(5), 106. https://doi.org/10.1007/s43545-021-00100-1

Adekunle, B. F. (2012). Management of traditonal markets in Ibadan, Nigeria: A focus on Oja'ba and Oje markets. *Retrieved August*, *14*, 2013.

BALOGUN, F. A. (2020). ANATOMY OF MARKETING IN OJA'BA AND OJE TRADITIONAL MARKETS, IBADAN, NIGERIA. *AFRICAN JOURNAL FOR THE PSYCHOLOGICAL STUDIES OF SOCIAL ISSUES*, *23*(1), 66-77.

Bello, Y. O., & Oyedemi, D. T. A. (2009). The impact of abattoir activities and management in residential neighbourhoods: A case study of Ogbomoso, Nigeria. *Journal of Social Sciences*, *19*(2), 121-127. DOI: 10.1080/09718923.2009.11892699

Bockstaller, C., & Girardin, P. (2003). How to validate environmental indicators. *Agricultural systems*, *76*(2), 639-653. https://doi.org/10.1016/S0308-521X(02)00053-7

Carmona, M. (2021). *Public places urban spaces: The dimensions of urban design*. Routledge.

Cloquell-Ballester, V. A., Cloquell-Ballester, V. A., Monterde-Diaz, R., & Santamarina-Siurana, M. C. (2006). Indicators validation for the improvement of environmental and social impact quantitative assessment. *Environmental Impact Assessment Review*, *26*(1), 79-105. https://doi.org/10.1016/j.eiar.2005.06.002

Costanza, R., Fisher, B., Ali, S., Beer, C., Bond, L., Boumans, R., ... & Snapp, R. (2007). Quality of life: An approach integrating opportunities, human needs, and subjective well-being. *Ecological economics*, *61*(2-3), 267-276. https://doi.org/10.1016/j.ecolecon.2006.02.023

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.

Donnelly A, Jones MB, O'Mahony T, & Byrne G. (2006): Decision support framework for establishing objectives, targets and indicators for use in SEA. Impact Assess Proj Apprais 2006; 24(2):151–7.

El Din, H. S., Shalaby, A., Farouh, H. E., & Elariane, S. A. (2013). Principles of urban quality of life for a neighborhood. *HBRC journal*, *9*(1), 86-92. https://doi.org/10.1016/j.hbrcj.2013.02.007

ENYIA, C. D., & KALU, S. E. (2018). Traditional Market Days and Modern Marketing Communication in South-East Nigeria. *European Academic Research 5 (11)*, 6178-6189.

Environment Agency. (2005). *EEA core set of indicators: guide*. European Environment Agency.

Fadamiro, J. A., & Adedeji, J. A. (2014). Urban dwelling and environmental quality indicators: An editorial. *Architecture Research doi: 10.5923/s. arch*, *20140*. DOI: 10.5923/s.arch.201401

Faisal, K., & Shaker, A. (2017). An investigation of GIS overlay and PCA techniques for urban environmental quality assessment: a case study in Toronto, Ontario, Canada. *Sustainability*, *9*(3), 380. https://doi.org/10.3390/su9030380

Fajoye, O. S. (2016): Users' Assessment of Environmental Quality of Markets in Ile-Ife, Osun State, Nigeria. An MSc thesis submitted to the Department of Urban and Regional Planning, Obafemi Awolowo University, Ile-Ife, Nigeria

Fakere, A. A., & Fadamiro, J. A. (2012). Decentralization of markets and environmental sanitation scheme: A focus on urban core of Akure, Nigeria. *J. Environ. Earth Sci*, *2*(8).

Farlex Incorporated (2006): 'Environment' The Free Dictionary. Available at www.thefreedictionary.com/Dictionary.htm

Fawole, Y. M. (2012). *Solid waste management practices in selected markets of Ibadan Oyo State* (Doctoral dissertation, M. Sc. Thesis, Department of Urban and Regional Planning, Obafemi Awolowo University, Ile-Ife).

Kesalkheh, S., & Dadashpoor, H. (2012). Assessment residential environmental quality of traditional and new neighborhoods, in a rapid grown city, Tehran. In *New and traditional residential environments, 48th ISOCARP Congress* (pp. 1-11).

Kilanko-Oluwasanya, G. O. (2009). Better safe than sorry: towards appropriate water safety plans for urban self supply systems.

Lehane, M., Le Bolloch, O., & Crawley, P. (2002). Environment in Focus, Key environmental indicators for Ireland. *Environmental Protection Agency, Dublin, Ireland*.

Mabogunje, A. L. (1974). Towards an urban policy in Nigeria. *The Nigerian Journal of Economic and Social Studies*, *16*(1), 85-98.

Majumder, A. K., Hossain, M. E., Islam, M. N., & Sarwar, M. I. (2007). Urban environmental quality mapping: a perception study on Chittagong Metropolitan City. *Kathmandu university journal of science, engineering and technology*, *3*(2), 35-48.

Merlinda, S., & Widjaja, S. U. M. (2020, March). Revitalization Strategy of Traditional Markets: A Case Study in Malang. In *4th Padang International Conference on Education, Economics, Business and Accounting (PICEEBA-2 2019)* (pp. 414-421). Atlantis Press.

OECD. OECD key environmental indicators (2004): OECD Publications: Paris; 2004. p. 38.

Olajuyin, O. A., Oluwadiya, K. S., Busayo, A., Olajuyin, A. A. O., Ogunboyo, F. O., Simeon, O., ... & Olajide, T. G. (2021). ONCE BITTEN, TWICE SHY: UPGRADING TRADITIONAL MARKETS AS A STRATEGY TO PROMOTE COMPLIANCE WITH SAFETY PROTO-COLS OF, AND BEAT, COVID-19 HANDS-DOWN. Doi: 10.29121/granthaalayah.v9.i6.2021.4056

Olawuni, P. O., Fajoye, O. S., & Taiwo, A. O. (2018). Socio-economic correlates of perceived environmental quality of market users in Ile-Ife, Nigerian. *International Journal of Multidisciplinary and Current Research*, *6*, 132-140.

Oluwadare, D. B. (2015). Residents' quality of life in Seme Border settlements, Nigeria. *Unpublished master thesis*.

Omole, F. K., Owoeye, J. O., & Ogundiran, A. O. (2012). Towards efficient transport connectivity for sustainable market patronage in Nigeria. *International Journal of Developing Societies*, *1*(2), 88-96. https://doi.org/10.11634/216817831504116

Omole, F. K., Lukman, Y., & Baki, A. I. (2013). Analysis of market typology and functions in the development of Osun state, Nigeria. *International Journal of Development and sustainability*, *3*(1), 55-69.

Onyechi, U. F. (2012). Sustainable Development for Traditional Market-Places in South-Eastern Nigeria; A Case Study of Nkwo-Ozuluogu Market Oraifite, Anambra state, Nigeria. *Journal of Environmental Management and Safety*, *3*(1), 139-158.

Opricovic, S., & Tzeng, G. H. (2003). Fuzzy multicriteria model for postearthquake land-use planning. *Natural hazards review*, *4*(2), 59-64.

Putra, R. D. D., & Rudito, B. (2015). Planning community development program of Limbangan traditional market revitalization with social mapping. *Procedia-Social and Behavioral Sciences, 169*, 143-150.

RIVM, 2002. In: Bouwman, A., van Kamp, I., van Poll, R. (Eds.), Report 630950 00x Workshopverslag Leefomgevingskwaliteit II. Verslag Workshop, 18 December 2001, in press.

Silva, J., De Keulenaer, F., & Johnstone, N. (2012). Environmental quality and life satisfaction: Evidence based on micro-data.. http://dx.doi.org/10.1787/5k9cw678dlr0-en

Štreimikienė, D. (2015). Environmental indicators for the assessment of quality of life. *Intelektinė ekonomika*, *9*(1), 67-79. https://doi.org/10.1016/j.intele.2015.10.001

Taiwo, A. O., Agbabiaka, H. I., Adeyeni, G. O., & Dada, O. T. (2019). Able-bodied beggars on the street: perceived determinants of their prevalence and their targeted land uses in Ibadan metropolis, Nigeria. *Environmental & Socio-economic Studies*, *7*(2), 21-31.

Taiwo, A.O. and Fajoye, O.S. (2022), "Traders' perceptions of environmental quality as tools in improving public space: a study of markets in Ile-Ife, Nigeria", *Management of Environmental Quality*, Vol. 33 No. 2, pp. 435-450. https://doi.org/10.1108/MEQ-03-2020-0042

Van Kamp, I., Leidelmeijer, K., Marsman, G., & De Hollander, A. (2003). Urban environmental quality and human well-being: Towards a conceptual framework and demarcation of concepts; a literature study. *Landscape and urban planning*, *65*(1-2), 5-18. https://doi.org/10.1016/S0169-2046(02)00232-3