

CORRELATION BETWEEN THE IMAGE VALUE OF THE PHYSICAL ENVIRONMENT AND USE OF PUBLIC SPACES IN AKURE, NIGERIA

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Abstract

The study evaluated the image value of public spaces in Akure and their contribution to creating an attractive physical environment. Both quantitative and qualitative methods were employed for data analysis. Data were collected from primary and secondary sources, with 209 respondents were selected through purposive sampling for structured questionnaire administration. These respondents were on-site users of public spaces in the core area of Akure. The collected data were analyzed using univariate, bivariate, and multivariate techniques. Socio-demographic characteristics, physical activity, image perception and, the physical environment were used to evaluate the influence of public spaces on the image value of Akure. Findings highlighted the importance of a well-maintained, aesthetically pleasing, and inclusive public space in creating a positive image and promoting the overall development of the study area. The study revealed a positive relationship between image value as a vital indicator for social interaction and increase public space utilisation. Furthermore, the result revealed the most significant problems facing open spaces in the study area which include; illegal conversion, encroachment, and poor maintenance. The study recommends that, Architects and Urban planners in Akure should integrate design principle in the planning of public spaces to improve its image value and a routine evaluation of public spaces by government to ensure a socially, well-maintained and functional spaces for overall users' satisfaction.

Keywords: Correlation, Image, Perception, Physical Environment, Public Spaces.

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I. INTRODUCTION

The physical environment of public space plays a crucial role in shaping the image of a city. The overall aesthetic appeal of public spaces significantly contribute to the image value of a city, influencing its attractiveness and legibility (Perovic and Folic, 2012). Improved living standard and the desires for quality life in a choice environment have increased the need for recreation activities among urban dwellers. The physical appearance of the environment will further influences, the use and the image of such recreation area for visit and revisit to public spaces. The image of a place makes it distinct, identifiable and unforgettable which can result to willingness to visit as many times as possible. Alamoush and kertes (2022), emphasized that, the image of a place cannot be in isolation but in relation to its physical environment, which can create a lasting impression for the viewers. Therefore, familiarity with the image value of the physical environment in public spaces is essential for an improve city and its development.

The growth of a city is a continuous process, Akure, the capital city of Ondo State, Nigeria, has experienced rapid urbanization and population growth in recent years. The rapid urbanization witnessed led to irregular, unplanned and unattractive public spaces within the core area of the city. Therefore, with this development, there is the need to evaluate and enhance the physical environment in public spaces to give a sense of safety and relaxation (Alamoush and kertes 2022). The overall quality of the physical environment of public spaces is the ability to provide a functional and aesthetically pleasing space for users. The physical environment of public spaces can shape its image as seen in the mental map of the observers, which varies on the physical and social interaction, this reveal the relationship between spatial and social characteristics of public space, (Qi, Mazumdar and Vasconcelos, 2024). The physical environmental features contribute to the legibility of a place and also create memories for the users, as it also influences the image as perceived by the observer which can either be pleasing or not, the image value of public spaces must be described in relation to the overall physical environment which will result in a cognitive understanding of the observers' mental image (Adegunloye, Folorunso, Taiwo, and Adegbehingbe, 2022). The relationship between the physical environment and user's activities contribute to the image seen and perceived by the people (Rahman, Ghani, Teh and Ibrahim, 2020). Mental image explains the understanding of users, and the contact with the environment, the ease at which they navigate, visualize and experience their environment. The importance of mental image maps that the observers know of their environment and how it is been perceived influence their interaction with the

spaces, Lynch, (2013). The identification and description of the physical environment play a significant role in creating aesthetically pleasing spaces (Ewing& Handy,2009). The image as seen can attract people into spaces, while the presence of liveable physical environment will foster inclusion and social interaction in public spaces, improve the image and create a welcoming environment for users. This study examines the physical environmental elements that contribute to the image value of public spaces, with a view to achieving an attractive environment that can increase the use of public spaces in Akure.

II. CONCEPTUAL FRAMEWORKS AND LITERATURE REVIEW

The concept of image value is credited to Kevin Lynch's theory of imageability which pointed out that the environment must have a clear identity and meaning that can be perceived and observed. People's perception of a city varies with the individual interpretation of the various elements of the city profile. The concept of imageability is the understanding of how people see the city, how they interpret the image and understand the city. Lynch (1960) described the imageability of the city as the quality of the physical object that gives an observer a strong vibrant image, simplicity in which one can identify the patterns and significance of their environment and how pleasing it can be. Jadon (2007) described the concept of imageability of a city as the interpretation of various layers of a city's images-its form, profile and experiences over some time. Lynch (1960) reiterated that image development is a two-way process between observer and observed, and attributed image as a product of immediate and past memory being experienced by observers. Imageability (imagery) is the physical quality of the urban environment in terms of its shape, colour or arrangement which forms the mental image of the city. Imageability/imagery is the physical features of a city that lead to image formation which comes with the city challenges and its delight. Although the perception of the image of the city differs from person to person, Carrera (1998) asserted that individual experience of the city varies from a different time and different spatial viewpoints.

The legibility of the city describes peoples' understanding, experience and enjoyment of the city (Kelly, 2001). Legibility also refers to the way people read their environment, and it depends on whether or not the image is positive or negative. The city must be flexible and easy to walk through. Lynch (1960) defined the legibility of a city as "the ease with which its parts may be recognized and can be organized into a coherent pattern." Collaborating with Lynch's (1960), Kelly (2001) noted that the physical and spatial quality of the surrounding is an essential consideration in city legibility. For effective city legibility, orderliness and visual organisation between city components must be achieved. The legibility of the city also contributes to the well-being of the people, they must feel comfortable with their surroundings. Lynch (1960) argued on the significant quality of a city, the legibility of a city is central to the physical well-being of its inhabitants. The physical city must be clear enough to be seen by the observer, some factors however influenced how the city is seen. Abeer (2007) noted that, city legibility is influenced by the city physical elements and its visual aspects. The study stressed further that the characteristic of the environment helps people to construct a mental representation of the built environment in which they live.

The growth of cities worldwide has influenced the needs for people to meet in public spaces, irrespective of their needs and perceptions. Public space is a place with free and open access, it is accessible to all categories of people irrespective of age, and ethnicity (Madanipour, 2010). Public spaces can be parks, playground, recreational area, square and streets. Many activities are performed in public spaces such as social, cultural, religious and recreational activities (Adegunloye, et al., 2023). Public spaces as described by Qi, Mazumbuzi and Vasconcelos (2024) as everyday spaces within a community where people meet for diverse engagements, which can be cultural activities and social interactions. Public space describes the physical features of the urban public spaces such as Parks, Greenery and Streets space. Public spaces provide recreational facilities, services and amenities to their dwellers (Javadi, 2016; Hickman, 2013). However, the frequency utilization of public space can be attributed to its proximity and satisfaction derived by users at a given time and space (Metha, 2014). Availability of recreational facilities in public space encourage physical activities like exercising, adventure and so on, was found to have a positive influence on the use of public space. Findings on the physical environment of public spaces revealed that, the presence of natural features such as trees for shades, water bodies, landscape area plays an important role in increasing its use, improving the wellbeing of users and a feel of satisfaction for continuous usage of public spaces (Palliwoda and Priess, 2021).

Image as used in the study describes the aesthetics, legibility and imageability of spaces, it also relates to attractiveness, associated with aesthetic values as seen with the eyes. Image appeal of a place influences observer's experience, which can evoke emotions, to attract people to such places if they are pleasant and repel if unpleasant (Nummenmaa & Hari, 2023). The image appeal of an object or a place is related to its physical qualities which can be expressed by its aesthetic values and satisfactorily attributes. In describing the image appeal, a reference spot must be made to know how valuable the image can be seen in relation to the physical

environment, which will result in a cognitive understanding of the observer's mental images (Güngör and Harman, 2020). The image appeal of public spaces can be described in relation to how interesting the place is, the varieties of activities and its physical environment.

Literature has established variables to access the image value of a place, which are building and its physical elements which include, material, shapes, colour, beautiful serene, texture, landscape element, greenery, topography and landmark. These attributes make a space enjoyable and pleasing for people to use and can give unforgettable memories. The physical environment is a built environment and natural environment that support human relationship with the surroundings (Rosalina, Hardiyati and Muqoffa, 2020). The built environment refers to the surroundings that are modified by people, comprises of buildings and spaces, offices, parks, infrastructure and transport system (Adegunloye, et al., 2023). The physical environment helps people to identify a place, its facilities and to connect to places of interest (Beideler and Morrison, 2015).

Researchers have investigated key factors in the assessment of the physical environment of a place, the study of Zhang, Wulff, Duan, Wagner (2019), identified three key characteristics to assess the physical environment of parks as path/trails, lighting and incivilities (e.g. broken glasses and litter) the study proposed a robust design for neighbourhood parks. Further studies on the indicators of physical environment of public spaces identified land use, infrastructure and exercise amenities. Lee (2019), identified accessibility of traffic light, sidewalks, accessibility of tree shades, safety and accessibility to public transit as indicators for physical environment of parks. The physical environment include, land, air, water, plants, animals, buildings and infrastructure. Furthermore, it comprises elements that contribute to cleanliness and beauty of public space to improve social wellbeing, attract tourists and economic growth. Another important factor in the physical environment are amenities which can be natural and manmade such as fountain, water spring, seats, landscaping, lighting elements, monuments and stature. Mahdi (2024) noted that natural and artificial elements are vital in improving the beauty of public spaces, and can also increase its spatial quality and improve the mental image as perceived by the observers/ users. Avantidus (et al., 2009), posits that the landscape of public spaces reduces air temperature, noise pollution and improves the general wellbeing of users of public spaces. Landscape is divided into soft and hard, which play a major role in the perception of the physical environment of public space and also enhance its image value. Natural and man-made features in public spaces enhance its visual physical, visual comfort and user's satisfaction and this will result in a better image of the environment (Ramlee et al., 2015). Some design consideration as identified in the literature such as natural and man-made features are crucial to the overall image perception as seen by the observer, the quality of the physical environment do not only depend on observer's perception but also on use and the desires for continuous use of the spaces. Hashemt, Emami Abdsharhzadeh and Niaei, (2022), posits that human behaviour influences by the physical environment, an orderly physical environment of public spaces can influence the number of people who use the place, the duration of the time spent and the type of activities they engages in.

III. THE STUDY AREA

The study was conducted in selected public spaces in Akure, with the same characteristic and level of activities. Akure is a city in the Southwestern region of Nigeria as it is the capital of Ondo State, (Figures 1 and 2). Akure is located on Latitude $7^{\circ}5'$ and $8^{\circ}00'$ North of the equator and Longitude $5^{\circ}45'$ East of Greenwich Meridian at an altitude of 370m above sea level. It has a provisional census figure of 484,798 people according to the 2006 census and a projection of 803,062 in 2025 using a 3% yearly increase as recommended by the National Population Commission (NPC). Akure is divided into four zones which are the core, the transition, the peripheral and the public housing areas as shown in Figure 3 (Gabriel and Fasakin, 2017). The study is limited to the core area of Akure which is predominantly made up of old structures, residential properties and mixed-use buildings with few commercial activities. The study area was chosen as a result of its rapid development, socio-economic growth, accessibility and diverse uses.

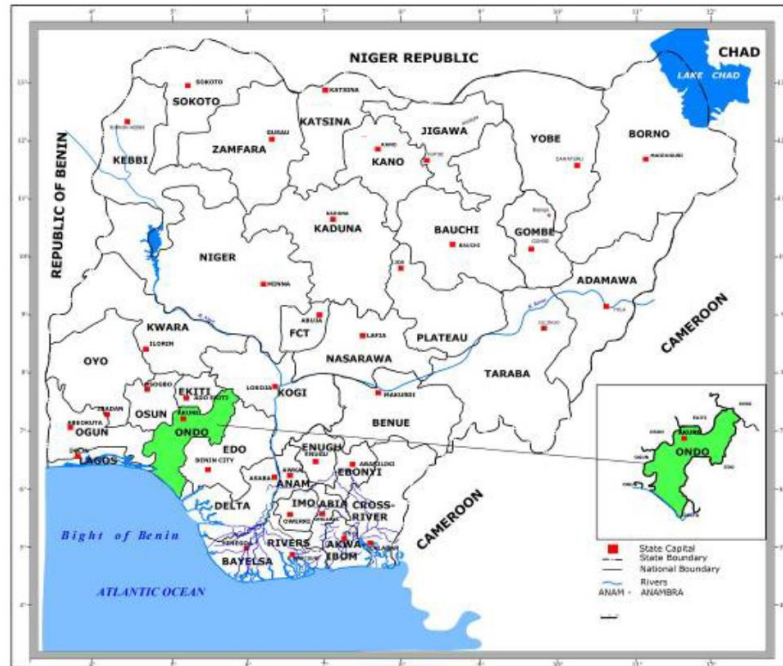


Figure Error! No text of specified style in document.: Ondo State in the National Context
Source: Ministry of Works and Housing, Akure, 2026; Digitized by the Author

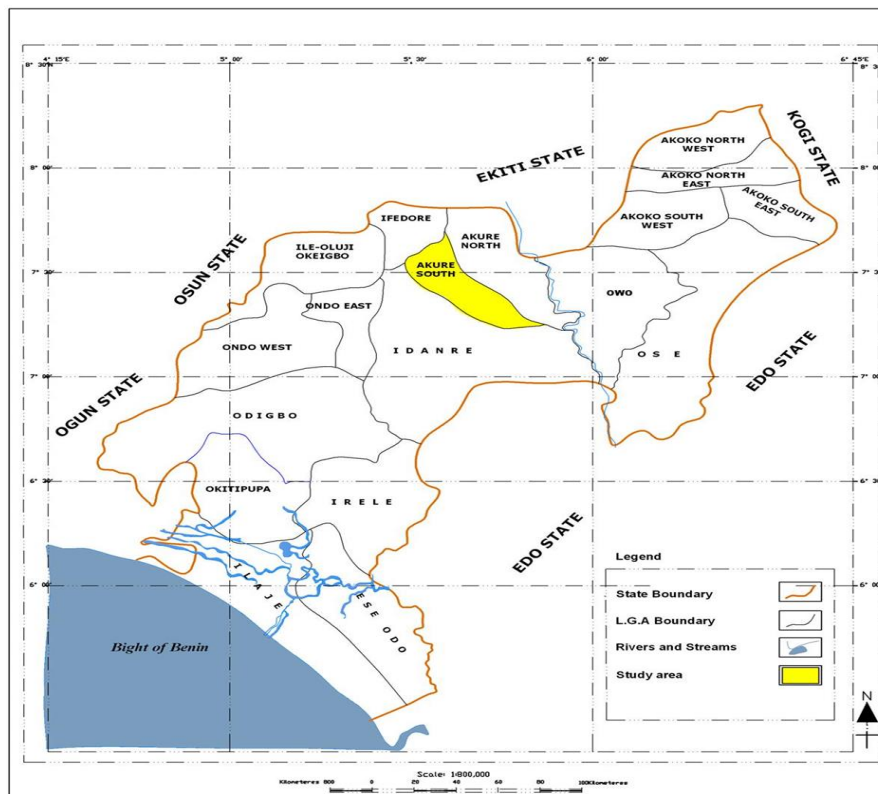


Figure 1: Ondo State in the National Context
Source: Ministry of Works and Housing, Akure, 2026; Digitized by the Author

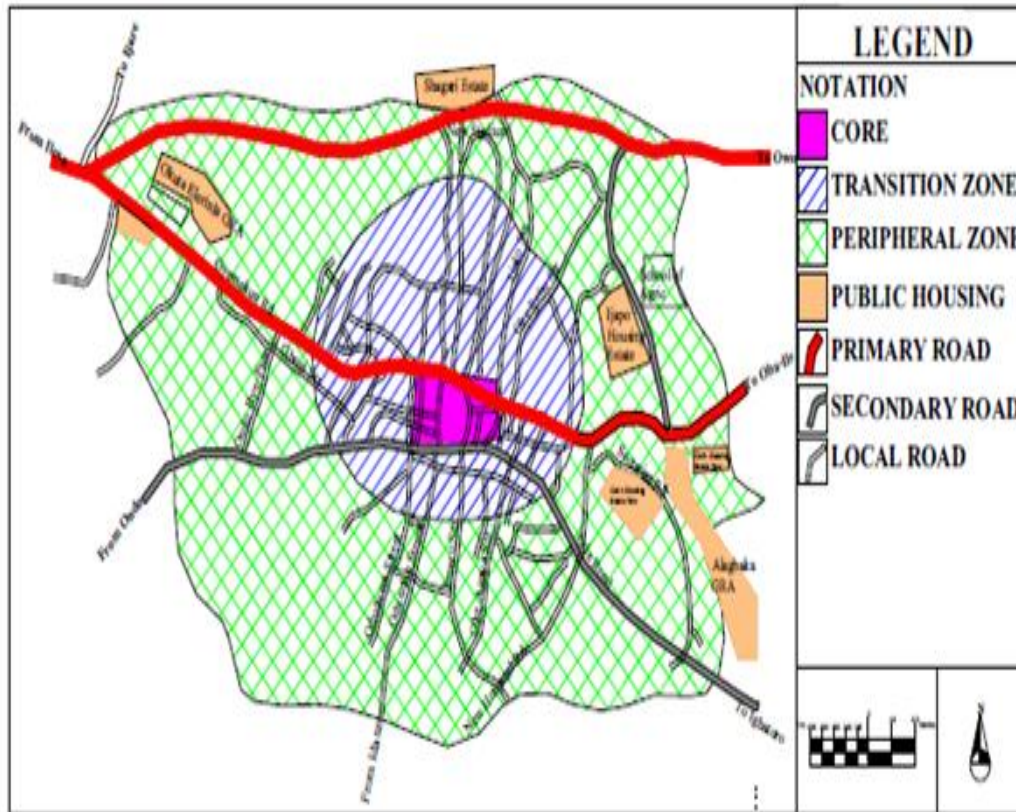


Figure 3: Map showing the Core area of Akure and major roads

Source: Ministry of Works and Housing, Akure, 2026; Digitized by the Author

IV. METHODOLOGY

This study adopted Mixed-method of quantitative and qualitative research design to examine the relationship between the image value of the physical environment and the use of public spaces. Data were collected using structured questionnaire administered to public space users to assess perceived image value and usage. Public spaces in the core area of Akure were identified to access the perceptions of users on the image value of the physical environment. The study area was chosen as a result of its rapid development, socio-economic growth, accessibility and diverse uses.

Questionnaire was generated to address the image value of the physical environment of public spaces, and was divided into three sections; socio-economic and demographic characteristic of respondents, which include; age, gender occupation and so on., observed image of the physical environment using a 5-points likert and pattern of use of the public spaces. A random sampling technique was adopted to select respondents from the users of the public spaces, to ensure representation across age groups, gender and type of activities. A total of 209 respondents participated in the study and was considered adequate for statistical analysis. Data was analysed using statistical software (SPSS), the analysis carried out include: descriptive statistic, Pearson's correlation analysis to determine the relationship between image value and public space use. Cronbach's alpha test was conducted to ensure internal consistency of the survey.

Quantitative data were analysed with SPSS software for descriptive and inferential statistical analysis. Descriptive statistic summarised the socio-demographic characteristic profile of respondents and activities patterns in the study area. Pearson correlation analysis was used to examine the relationship and the physical environment of public spaces and the image value. Consent of the respondents were sought before participating in the survey, permission was obtained from Ministries of Tourism and Urban and physical planning of Ondo State.

V. RESULTS AND DISCUSSION

The study analysed the socio-demographic characteristic of respondents, diverse activities in public spaces, physical environment and the image value of Akure public spaces. Data were analysed using descriptive statistic

and inferential methods to analysis the relationship between physical environments of public spaces and its image.

5.1 Socio-demographic characteristics of Respondents

Table 1 shows that, majority of the participants were males (60.8%) and 39.2% of therespondents were females. With a 31.1% participation rate, those under 30 years spent more time relaxing and exercising than any other age group. Additionally, the study found that 3.8% of people aged 70 and older were not engaging in leisure or physical activities, while 35.4% of the respondents were self-employed. The respondents' lowest percentage (5.7%) is retired, followed by 27.8% civil/public servants and 21.1% were unemployed, while most of the respondents (38.8%) had higher education qualifications, as this implies that, majority of the users of public spaces in Akure were educated. Study revealed that, 47.6% ofthe respondents weresingles and use public spaces more than people of other marital status.The respondents' monthly income wasmeager (less than 50,000 Naira) as this may be related to the fact that 28.4% of respondents were between the ages of 31 and 40, and 43.4% of respondents under age 30 years, as study revealed that they earned little income.

Table 1:Socio-demographic characteristics

Variables	Categories	Frequency	Percentage (%)
Gender	Male	127	60.8
	Female	82	39.2
	Total	209	100
Age	Less than 30 years	65	31.1
	31 – 40 years	85	40.7
	41 -50 years	40	19.1
	51 – 60 years	11	5.3
	61 – 70 years	8	3.8
	Above 70 years	0	0
	Total	209	100
Employment Status	Unemployed	44	21.1
	Self-Employed	74	35.4
	Civil/Public Servant	58	27.8
	Private Sector	21	10.0
	Retired	12	5.7
	Total	209	100
Educational Status	No formal Education	0	0
	Primary	8	3.8
	Secondary	56	26.8
	NCE / OND	50	23.8
	HND / BSC	81	38.8
	Postgraduate	41	6.7
	Total	209	100
Marital Status	Single	87	41.6
	Married	101	48.3
	Widow / Widower	21	10.0
	Divorced	0	0
	Separated	0	0
	Total	209	100
Income level	<50,000	102	48.8
	50,000-99000	95	45.5
	100,000-150,000	12	5.7
	Above 150,000	0	0
	Total	209	100

Source: Researchers' Fieldwork, 2026

5.2 Use of the Existing Public Spaces in the study area

Table 2 revealed the reasons for using the existing public spaces in Akure. Public space being a medium for meeting people (Social Interaction) (Figure 4) was ranked first of all the variables with the RII value of (0.732), with the standard deviation of 1.025, and rated "agreed" by 54.0% of the respondents. Ranked next, is for the purpose of beautiful scenic (0.640 RII; ± 1.066 std) (Figure 5). This was agreed by 34.0% of the respondents. Relaxation (0.608 RII; ± 1.408 std) was ranked third and rated as a purpose of using the existing open spaces by 40.0% (Figure 6). Closeness to nature (0.520 RII; ± 1.242 std) being rated agreed by 24.0%.

Some of the respondents disagreed with the identified reasons for using the existing open spaces in the study area. Open spaces being used for exercise (0.508 RII; ± 1.193 std) was disagreed by 32.0%; Adventure (0.492 RII; ± 1.05 std) was disagreed by 30.0% and the least of all the factors analysed was being alone having the value of its relative importance index as 0.488, and the standard deviation of 1.250 being rated strongly disagreed. The result proves that people visit the public spaces in the core area to meet people (social Interaction), enjoy the beautiful scenic, and for relaxation. This was in line with Yuen (1996), which posits that neighbourhood parks are used for everyday activities of rest and relaxation, play and contact with others. Public spaces in the study area are used for social interaction, relaxation and recreational activities.

Table 2: Use of public space in the study area

Purpose	Frequency and Percentage distribution					Relative Importance Index			
	SD(%)	D(%)	U(%)	A(%)	SA(%)	Total Score	Statistics	Std. dev.	Rank
Meet people	2(4.0)	6 (12.0)	7(14.0)	27 (54.0)	8(16.0)	183	0.732	1.025	1
Beautiful scenic	3(6.0)	11 (22.0)	14 (28.0)	17 (34.0)	5(10.0)	160	0.640	1.066	2
Relaxation	9 (18.0)	14 (28.0)	0(0.0)	20 (40.0)	7(14.0)	152	0.608	1.408	3
Closeness to nature	10 (20.0)	18 (36.0)	7 (14.0)	12 (24.0)	3 (6.0)	130	0.520	1.242	4
Exercise	11 (22.0)	16 (32.0)	10 (20.0)	11 (22.0)	2 (4.0)	127	0.508	1.193	5
Adventure	11 (22.0)	15 (30.0)	15 (30.0)	8 (16.0)	1(2.0)	123	0.492	1.054	6
Alone	15 (30.0)	14 (28.0)	7(14.0)	12 (24.0)	2(4.0)	122	0.488	1.250	7

Source: Researchers' Fieldwork, 2026



Figure 4: Democracy Park, Akure

Source: Researchers' Fieldwork, 2026



Figure 5: Games reserve amusement park in Akure

Source: Researchers' Fieldwork, 2026



Figure 6: Oyemekun Rocks, Akure

Source: Researchers' Fieldwork, 2026

5.3 Image Value of the Physical Environment

Table 3 shows the analysis of the image value of the physical environment. The Pearson correlation analysis was performed on the 14 elements pertaining to the study, which indicated a positive and statistically significant relationship between the image value of the physical environment and the use of public spaces ($r=0.xx$, $p<0.05$). The results revealed that the image value plays a significant role by influencing the use of public spaces (Table 3). Variables such as man-made features, landscape/ greenery, attractiveness, architectural varieties and presences of natural environment was rated high (1st-5th) as shown in Table 3. These findings corroborate existing literature that attractive and aesthetically pleasing environment are key determinants in use and choice

of public spaces. Users are likely to spend longer hours and make frequent visits to public spaces they found attractive and comfortable.

Furthermore, the items that scores low such as orderliness, amenities, natural environmental element, visual appealing and good lighting suggest that a well-designed public spaces may not likely be used maximally if these items are lacking or in bad condition. The shows that provisions of items that will encourage the use of public spaces, good management policy and maintenance can ensure continuous sustainable positive image value.

Table 3: Analysis of the Image Value of the Physical Environment

Facilities	SD (%)	D (%)	U (%)	A (%)	SA (%)	Statistic	Std. Dev.	Rank
Man-Made Features	0(0)	4(1.9)	34(16.3)	108(51.7)	63(30.1)	4.10051	0.73015	1
Landscape/Green	0(0)	9(4.3)	28(13.4)	97(46.4)	75(35.9)	4.1388	0.80556	2
Attractiveness	8(3.8)	0(0)	25(12.0)	106(50.7)	70(33.5)	4.1005	0.89036	3
Architectural Varieties	6(2.9)	21(10.0)	31(14.8)	110(52.6)	41(19.6)	3.7608	0.97576	4
Presence of Natural Features	0(0)	38(18.2)	47(22.5)	86(41.1)	38(18.2)	3.5933	0.98652	5
Noise Control	10(4.8)	30(14.4)	44(21.1)	78(37.3)	47(22.5)	3.5837	1.12827	6
Artistic Features	19(9.1)	27(12.9)	20(9.6)	113(54.1)	30(14.4)	3.5167	1.6064	7
Good Lighting	19(9.0)	31(14.8)	22(10.5)	110(52.6)	27(12.9)	3.4545	1.16400	8
Visually Appealing	5(2.4)	43(20.6)	8(3.8)	83(39.7)	70(33.5)	3.8134	1.17613	9
Natural Environmental Element	14(6.7)	36(17.2)	46(22.0)	68(32.5)	45 (21.5)	3.4498	1.19639	10
Amenities	40(19.1)	59(28.2)	48(21.8)	53(25.4)	12(5.7)	2.7033	1.20417	11
Orderliness	17(8.1)	20(9.6)	50(23.9)	66(31.6)	56(26.8)	3.5933	1.20980	12
Safety	19(9.1)	57(27.3)	39(18.7)	59(28.2)	35(16.7)	3.1627	1.25282	13
Cleanliness	28(13.4)	25(12.0)	48(23.0)	71(34.0)	37(17.7)	3.3062	1.27174	14

Source: Researchers' Fieldwork, 2026

5.4 Problems facing Open spaces in the Study Area

The study identified several problems affecting open spaces in Akure, which in turn impact the image value of the area (Table 4). Findings revealed that 30.1% of respondents reported illegal conversion of open spaces to other uses as the major problem. Encroachment of open spaces was cited by 26.1% of respondents, while 22.2% identified poor maintenance as a challenge. Additionally, 8.0% of respondents pointed to lack of awareness, and 4.6% highlighted insecurity as issues affecting open spaces. Overall, the majority of respondents indicated that illegal conversion, encroachment, and poor maintenance are the most significant problems facing open spaces in the core area of Akure. Some respondents further claimed that, certain open spaces have been converted to commercial or residential uses, while others have been repurposed as dump sites.

Table 4: Problems facing Open spaces in the Study Area

Problems facing open space	Frequency	Percent (%)
Encroachment	55	26.1
Poor Maintenance	46	22.2
Illegal Conversion of use	63	30.1
Flooding	19	9.0
Insecurity	9	4.6
Lack of awareness	17	8.0
Total	209	100.0

Source: Researchers' Fieldwork, 2026

VI. CONCLUSION AND RECOMMENDATION

The study examined the correlation between the image value of the physical environment and the use of public spaces in Akure, the results revealed a strong and positive relationship. The findings show that the physical environment embedded with man-made decorative elements, a well landscaped space with presence of natural features, and an attractive space endowed with architectural varieties will improve social interaction and increase frequent of use. Furthermore, the result revealed the most significant problems facing open spaces in the study area which include illegal conversion, encroachment, and poor maintenance.

Public spaces in Akure that have a lasting visual visibility, aesthetic harmony with the environment and a symbolic representation of the people way of life (politically, religiously and socially) documented frequent patronage and diverse of activities. Image value extends beyond visual appeal it include, cleanliness, safety of users, orderliness and provisions of basic amenities for users overall comfort.

The study recommends:

- **Integration of design principle in planning of public spaces:** Architects and urban planners in Akure should integrate design principle in planning of public spaces to improve legibility and its image value.
- **Revitalization and remodelling of Public Spaces:** The existing public spaces should be revitalized and remodelled by improving landscape, good lighting and provision of seating.
- **Policy Recommendation:** The Ondo State Government, through the Ministry of Environment, and Ministry of Urban and Physical Planning should incorporate image value assessment policy as a requirement for public space development and management.
- **Routine evaluation of public spaces:** There is need for routine evaluation of public spaces by Ondo State government and its agencies to ensure a socially and functional spaces for overall users experience.
- **Public Participation in Open Spaces Management:** Residents, stakeholders and users should be involved in planning and design of public spaces. Design of public spaces should be inclusive and accessible for different age group and persons with disabilities.

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